WISCONSIN STROKE PLAN 2005
Primordial and Primary Prevention

A. Introduction

Primordial and Primary Prevention: Ideal State
1. Support mechanisms exist to assist communities and providers in initiating preventive regimens applicable to the general population.
2. Support tools exist to assist patients and providers in long-term adherence to primordial and primary preventive treatment regimens.
3. Educational programs exist that target high-risk populations and their families.
4. Education efforts include community-based organizations, policymakers and other stakeholders.

Primordial prevention refers to strategies designed to decrease the development of disease risk factors (e.g., efforts to decrease the development of obesity, increase exercise and provide a well-balanced diet). Thus, prevention encompasses the entire population and is not limited to those individuals with recognized risk factors for stroke or other cardiovascular diseases. General prevention efforts targeting smoking cessation, obesity and diabetes may benefit the entire population.

Primary prevention refers to the treatment of established disease risk factors. Much is known about the regimens and therapies that are successful in preventing the vast majority of strokes, including the management of hypertension, lipid levels, diabetes, atrial fibrillation and other modifiable risk factors. Disease management and medication adherence strategies may help promote implementation of primary prevention regimens.

B. Current Status

Please rate Wisconsin's current status on *Primordial and Primary Prevention* (on a scale from 1 to 5, 1 being poor (does not exist) and 5 being "ideal" state exists):

Support mechanisms/tools exist
Targeted educational programs exist
Stakeholders cooperate and coordinate efforts

1. **__2.5___ Support mechanisms** (Support mechanisms exist to assist communities and providers in initiating preventive regimens applicable to the general population.)
2. **__1.5___ Support tools** (Support tools exist to assist patients and providers in long-term adherence to primordial and primary preventive treatment regimens.)
3. **__2.5___ Targeted educational programs** (Educational programs exist that target high-risk populations and their families.)
4. **__1.0___ Educational partners** (Education efforts include community-based organizations, policymakers and other stakeholders.)
5. **__2.0___ Overall Score**

C. Inventory

List all of the support mechanisms, support tools and educational programs (the assets and resources) available for the Primordial and Primary Prevention component.

Inventory of Support Mechanisms/Tools/Educational Programs Assets/Resources Available for this Component	
Name/location of Organization	**List of Assets/Resources**
Support Mechanisms	
Franciscan Skemp Healthcare, La Crosse	**Hypertension Guideline Implementation.** Initiated about 2 years ago in all clinic departments. Includes accurate BP measurement; recommendations to adjust BP med; formulary drugs and doses; patient education materials; protocol for primary care and specialty areas
CTRI	Smoking Cessation and Prevention Clinic
UW Health, Madison	Vascular Health Screening
UW Health, Madison	Preventive Cardiology Program
DHFS, Madison	Badger Care
HoChunk Nation, La Crosse	Health education and wellness programs
Gundersen Lutheran	Gundersen Lutheran Nicotine Cessation Program, "Journey to Freedom." Weekly support group free of charge to community members
Gundersen Lutheran	La Crosse Area Stroke Support Club
La Crosse County Health Dept	La Crosse Area Health Initiative, focus on tobacco cessation. Public/professional education on clean indoor air and second hand smoke as well as youth smoking prevention.
Marshfield	Healthy Lifestyle Initiative (which I believe Mary Jo Brink is very familiar with and knows Dr. McCauley). I contacted Mary Ann Lippert who is in charge and she agreed to be a contact. Her phone number is 715-221-8420. The program is trying to promote exercise in the community and healthy meals in the school system as well as other programs as well I am sure.
Mends Hearts Clubs	Mended Hearts Club is coordinated by Nancy Moede, RN Manager of the Marshfield Clinic Cardiac Rehab department. Her phone is 715-387-9002. She has a variety of speakers that participate on a monthly basis.
St. Joseph's Hospital Marshfield	St. Joseph's Hospital has a Diabetic Support Group that meets the 4th Tuesday of every month from 9:30 AM to 10:30 AM in the hospital. I have not been able to connect with the coordinator yet, but think that stroke prevention education is something that they would promote if they do not already.

WISCVPR	This is statewide, WISCVPR, which is the state professional society that many of us that work in cardiac and pulmonary rehab are members. With your permission, I could send a notice to our newsletter asking for help from this field. I have attached a letter that if is all right with you I would ask the editor of the newsletter to include in the next newsletter.
Gloria Bock, MSN, RN Stroke Coordinator, St. Luke's Medical Center	Because St. Luke's has so many patients with heart disease, there is increased awareness of the risk for stroke in this population. Information from the facility as well as ASA literature is provided to pts. with TIA and stroke to prevent reoccurrence.
Theda Clark Medical Center	Stroke support group offered to the community on the 4th Wednesday of each month
Theda Clark Medical Center	Community Health Calendar: There is a committee that works with the marketing department and this brochure goes out to 100s' of residents in the Fox Cities. Too many classes to speak of but there is something for each age group. The brochure goes out in spring and fall.
Theda Clark Medical Center	Saturday March 5th, 4 hour seminar available to the community which will focus entirely on stroke. MDS' from the hospital will be presenting, along with Kate Adamson, our keynote speaker, stroke survivor.
AHA/ASA	Go Red for Women Physician Toolkit (education for physician's on women's guidelines)
Support Tools	
AHA/ASA	**Stroke***:* Patient Education Took Kit Toll-free "Warmline" and website Advocacy outreach in obesity, stroke systems development, etc. Free online programs to manage risk factors Patient education materials New cause marketing campaign for African Americans/Stroke AHA/ADA/ACS campaign on healthy lifestyles
Franciscan Skemp Healthcare: Mayo Health System, La Crosse	Stroke Education Packet - Educational materials about stroke risk factors, prevention, nutrition, HTN.
CTRI	Wisconsin Tobacco Quit Line
YMCA of Dane Co	Strong Kids Campaign
UWHC	Medication Assistance Program
Healthy Lifestyle Initiative Marshfield Community	Promotes healthy lifestyle changes in our community by encouraging healthy diet in the schools and exercise programs in the community.
Gundersen Lutheran	Health Resource Center, staffed by consumer health librarian
Great Rivers 2-1-1	Comprehensive information and referral, listing of community resources on wide variety of subjects
Gundersen Lutheran	Swing into Shape – physical exercise program geared toward participants with limited physical mobility and offered at a variety of community sites
St. Luke's Medical Center	"For Your Well Being" flyers have been developed for Stroke – 1. What you need to know 2. How to transfer without help 3. How to help someone stand up 4. home safety 5. dressing – upper and lower body 6. adaptive equipment, bathing, 6. sex after stroke 7. the good news about quitting smoking

Theda Clark Medical Center	Stroke Folders with numerous resource and educational materials to each patient and family who is in the hospital with a stroke, reviews meds, nutrition, smoking, rehab, emotional effects of a stroke and much more
Theda Clark Medical Center	Thedacare's website with all kinds of information and a variety of topics
Educational Programs (targeting high-risk populations and their families)	
Franciscan Skemp Healthcare, La Crosse, WI	To the Heart of the Matter Educational program centered around cardiovascular health with a small focus on stroke. Display of stroke information and BP checks.
Franciscan Skemp Healthcare & Gunderson Lutheran Medical Center, La Crosse & the American Stroke Association	Public Education program scheduled for May 5th –in the planning stages now.
UW Health	Women's Heart Health Program
CTRI	Smoking Cessation and Prevention Clinic
YMCA of Dane Co	Strong Kids Campaign
Natural Ovens Bakery	Roadmap to Health Foods in Schools
St. Joseph's Hospital Diabetic Support Group Marshfield	Meets monthly to talk with diabetic patients and address risk factor modification in this group. Annually a guest speaks on the signs and symptoms of stroke.
Mended Hearts	Meets monthly with heart patients and addresses risk factor modification and living in a heart healthy way.
Gundersen Lutheran	Speakers Bureau, provides videotapes, speakers, and presentations to schools, businesses and civic and service groups
La Crosse County Health Dept	Wide variety of wellness programs
La Crosse County	Healthy Living Project, Focus on decreasing heart disease, increasing physical activity, decreasing tobacco dependence, promoting good nutrition
Gundersen Lutheran	Stroke Education Program, staffed by Stroke Coordinator. Also staffed by Neuroscience Center professionals.
St. Luke's Medical Center	Patient population is high risk for stroke. Advisory committee has been set up to address needs in the community, to EMS personnel as well as to current patients.
Theda Clark Medical Center	Stroke Rounds every Tuesday for MDs' and nursing staff.
Theda Clark Medical Center	CMEs' offered the 1st and 3rd of the month for all staff on a variety of topics
Theda Clark Medical Center	Month of May for Stroke Awareness a free community presentation on Stroke presented by the Stroke Center
AHA/ASA	Search Your Heart/Stomp Out Stroke (church-based programs) targeting African Americans and Hispanic-Latino populations

D. Assessment for *Primordial And Primary Prevention*

Recommendation 1: A stroke system should develop support mechanisms to assist communities and providers in initiating preventive regimens applicable to the general population.

- Rated at 2.5 out of 5.

- **Current situation:**
  - Efforts have begun in communities in past several years, trying to get it going; also have a primary prevention program.
  - Schools are becoming somewhat active in teaching and in the lower grades too. Schools have backed off on PE (gym classes and after school programs) and this is an area to address. PE is minimally available and nutrition programs are poor. Need to encourage all-inclusive programs that include obese-high risk children. Encourage rewards for children who participate. Community residents may assume these programs are in place and they are not. Community coalitions are working in a number of Wisconsin communities on prevention issues. Public education system is a strong vehicle to work through.
  - Messages appear in the media from notables in the community like a Mayor.

- **Obstacles/barriers?**
  - People are not making the connection between the message and behavior-lifestyle change. Ramification of not following a healthy lifestyle is not understood. People don't take the necessary action to change.
  - Lots of strategies out there; not necessarily effective. Strategies not well targeted to populations needing different approaches.

- **Critical success factors:**
  - Lots of good initiatives out there; just need to coordinate them better, put more energy into the coordination.
  - Many people are trying – recognize them for that.
  - Promoting what communities are doing on the web.
  - Encourage awareness of what school districts are not offering to educate communities on the current status of PE, after school activity and nutrition and encourage awareness of importance of need for activity and nutrition for children.
  - Encourage prevention behaviors in the schools not just teaching prevention, sign and symptoms, and demonstrating how to prevent risk factors by increasing PA and nutrition programs.
  - Need for statutory support through policy makers and legislators; need for community and school movement on these issues.
  - Work through the DPH Nutrition and Phys Act program and their state plan.
  - Intensive year-long media and schools campaign targeting stroke.

Ideas for Action (Plan Objective):
#1: Remember there are two different focuses here. One would be knowledge on signs and symptoms, which is something kids can learn. The other would be actual physical activity and nutrition programs being increased in schools. So an objective would be, let's take the easy one, signs and symptoms: *By 2006 establish with the Department of Public Instruction, because that has to be there, a program to promote training on or education on signs and symptoms of stroke to middle school children.* That's an example. Or it could be whatever age group, but it would be worded that way.

From the CVH Plan*: "By 2006 coordinate with the state physical activity and nutrition program to support efforts to improve physical activity and nutrition in Wisconsin residents."* And, *"By 2007 develop a community based toolbox."*

And if you go to strategy three, 3.3A, *develop communications targeted to schools, communities, and faith based organizations that emphasize the importance of increasing physical activity and eating nutritious meals and snacks in appropriate portions to prevent, it's going to say, heart disease and stroke in children* because we're replacing the cardiovascular part of it. That would be another one and it would feed right into what we've been discussing.

#2: Intensive year-long media and schools campaign targeting stroke.

Recommendation 2: A stroke system should develop support tools to assist the population as a whole, patients and providers in long-term adherence to primordial and primary preventive treatment regimens.

- Rated at 1.5 out of 5.

- **Current situation:**
  - CVH Program has the Cardiovascular Risk Reduction program: Wisc guidelines for prevention of heart disease and stroke and a wallet card, in Spanish and English
  - The need for media awareness and prevention. People out there do not understand how their behavior is tied to primordial and primary prevention.
  - When you're targeting stroke with the general population, it's important to use the word stroke or brain attack because the rest of the community doesn't necessarily tie the two. You talk about cardiovascular health and we all know that that is encompassing stroke issues as well, but regular guys on the street don't pick that up.
  - Need a comprehensive educational plan where we put everything under one umbrella, maybe for media awareness we could. There is a campaign out there, *everyday choices* where the American Dietetic Association and the American Cancer Society and the American Heart Association all got together and said, "To reduce your risk of cancer and diabetes and heart disease and stroke, all of these behaviors,"

- **Obstacles/barriers?**
  - Medication cost as a function of medication compliance.
  - Reaching populations such as American Indians.
  - Knowing if programs are used such as Cardiovascular Risk Reduction program.
  - Perception that physicians are not aggressive enough in treatment (like with HBP).
  - Money as a barrier…it takes a lot of money to do that.
  - Concern that the message goes to support heart more than stroke because the public doesn't relate stroke to cardiovascular disease.
  - Smaller communities and training of physicians for stroke symptoms – a personal story of mis-diagnosis in a small community.
  - Increase training needed with EMS to recognize stroke signs and symptoms; currently not a priority or mandated – need to mandate.

- **Critical success factors:**
  - Making resources available via the Web and in categories for ease of use.
  - Securing unrestricted funds from outside sources for implementation of the WSC Stroke Plan.
  - Partner with other organizations for messages – we will have more resources together and it is more cost effective.
  - Mary Jo—integration group all the directors of chronic disease programs in DPH – using this group to integrate across programs.

Ideas for Action:
"By 2006 identify partner organizations and extend invitations to fund or to solicit proposals for funding." And for partners to provide resources to develop.

Recommendation 3: A stroke system should support educational programs that target high-risk populations and their families.

- Rated at 2.5 out of 5.

- **Current situation:**
  - Areas represented indicated they do target high risk
  - Overall that a good job is done with high risk and primary prevention, maybe not as well with primordial.
  - Inconsistency -- Smoking cessation is one program out there. It is a statewide program but is it being used? Are we all using the same programs and the same approaches?
  - High risk audience – those most needing—not having the availability or access to vehicles for healthy behaviors
  - Stroke Warning Signs survey data from AHA/ASA:
    - A telephone survey was conducted in June 2003 among a nationally representative sample of the U.S. by Synovate (formerly Market Facts), a national marketing research firm. The total sample was composed of 1,800 respondents, which included an oversample of 400 African Americans

and 400 Hispanics in order to observe differences across ethnicity. The following question was asked: What are the signs or symptoms of a person having a stroke?

- **CONCLUSIONS**
  - Awareness of stroke warning signs has remained stable over the past three years, with no statistically significant increase observed.
  - Awareness of heart attack continues to outpace stroke in terms of recall of one warning sign.
  - The need for targeted education is still highest among the following audiences: lower income, lower education, African Americans and Hispanics.

  58% of the sample correctly recalled at least one sign (vs. 59% in 2000).
  - 29% correctly recalled at least two signs (vs. 29% in 2000).
  - 42% could not correctly recall any signs (vs. 41% in 2000).

  Numbness/weakness and confusion/trouble speaking were the most commonly recalled signs.
  - Numbness/weakness of the face, arm, or leg was mentioned by one-third of the sample (34%) (vs. 32% in 2000).
    - Compared to WI BRFS 2001 99.2%; 2003 98.6%
  - Confusion, trouble speaking or understanding was mentioned by one-third of the sample (22%) (vs. 29% in 2000).
    - Compared to WI BRFS 2001 96.5.2%; 2003 96.4%
  - Trouble walking, dizziness, loss of balance or coordination was the next most common sign (21%) (vs. 18% in 2000).
    - Compared to WI BRFS 2001 96.6%; 2003 96.1%
  - Headache was mentioned next most often (12%) (vs. 12% in 2000).
    - Compared to WI BRFS 2001 80.7%; 2003 79.5%
  - Sudden dimness or loss of vision, particularly in one eye (4%) and trouble seeing in one or both eyes were mentioned least often (2%) (vs. 8% in 2000).
    - Compared to WI BRFS 2001 89.8%; 2003 89.5%

  Awareness varied by demographics and region.
  - Awareness is highest among persons aged 45-54.
  - Awareness increases with level of education.
  - Awareness increases with household income.
  - Awareness is highest among whites.
  - Awareness is highest among females.
  - Awareness is highest in the Midwest and Northeast.
  - Awareness is highest among married persons.
  - Awareness is highest among employed and retired persons.

- **Obstacles/barriers?**
  - Gaps in the state where no stroke education is happening.
  - HBP and other risk factor education is taught but not tied back to stroke.
  - Larger hospital's outreach programs and service to smaller hospitals – the distance makes it difficult to get to them for the training and teaching so resources aren't as available.
  - How to support access to or availability to vehicles for healthy behaviors ie fresh fruits and veggies, safe walking.

- **Critical success factors:**
  - Need to reach populations across the state, not just metros; improved penetration across the state.
  - Relating risk factors to stroke.
  - Improve on consistency. Hospital to hospital, county to county. Use of the same programs and approaches.
  - Seek funding for a stroke warning signs state survey.

Recommendation 4: A stroke system should ensure that education efforts include community-based organizations, policymakers and other stakeholders.

- Rated at 1.0 out of 5.

- **Current situation:**
  - Felt we have a lot of these pieces, but we don't put them together; not sure if that is so important.
  - All parties in a community are not working together; it is fragmented.
  - The policymaker is not much in the play.
  - WI Stroke Alert had support from Madison mayor and governor/legislative proclamation to give awareness to legislators
  - Press conferences help to raise awareness.

- **Critical success factors:**
  - Seize media opportunities to raise awareness.
  - Seize advocacy and legislative efforts.

E. Action Plan

Wisconsin Stroke Plan
Primordial and Primary Prevention
2005 - 2007

PRIMORDIAL PREVENTION

(ITALICS DESIGNATES PLAN COMPONENT ALSO APPEARS IN THE WISCONSIN CVH PLAN. THE CVH ALLIANCE AND THE WSC PPP PANEL WILL COLLABORATE ON THESE ELEMENTS.)

Goal 1:	**Develop support mechanisms to assist communities and providers in initiating prevention regimens applicable to the population as a whole.**

Strategy 1: Raise community and provider awareness and increase activity regarding stroke prevention and use of current evidence-based treatment recommendations.

#	Objectives	Action Steps	Timeframe
1.1A	**Enlist the support of providers and communities to initiate primordial and primary prevention (PPP) regimes.**	• Develop an outreach or promotional plan to reach providers and communities, encourage them to initiate PPP regimes and promote available resources (such as listing of WI community coalition activity). • Promote/outreach to regional health offices and local health departments to initiate PPP strategies and promote available resources.	2005-2007
1.1B	**Provide assistance for providers in putting in place referral plans.**	• Develop a generic referral template and post to the CVH Stroke website to encourage referrals to appropriate specialties (for example for diabetics, referring to diabetes educators or endocrinologists).	2007-2009
1.1C	**Work with public policy to ensure optimal stroke care.**	• Develop a plan to educate public officials on priority policies and related programs and implement.	2005-2007

Strategy 2: Promote awareness of heart and stroke health initiatives and policies to targeted audiences.

#	*Objectives*	*Action Steps*	*Timeframe*
1.2A	***Implement a statewide public awareness campaign on the impact of heart and stroke disease and how to prevent it.***		*2005-2007*
1.2B	***Implement a communication plan to inform targeted groups about heart and stroke initiatives and policies.***	• *Enlist the support of media specialists to develop key messages and communication vehicles.* • *Disseminate information based on the communications plan.*	*2005-2007*

Strategy 3: Increase implementation of best practices for early diagnosis and treatment of heart and stroke risk factors.

#	Objectives	Action Steps	Lead Organization(s) and Partners	Timeframe
1.3A	***Increase the number of adults with high blood pressure who are taking appropriate actions to control their high blood pressure.***	• *Follow the state diabetes template for training programs* • *Improve access to resources for indigent populations* • *Increase awareness of importance of BP control through media campaigns* • *Increase adherence to medication and lifestyle changes through patient education*	*CVH Alliance* pharmaceutical industry reps, community advocates*	*2006-2009*
1.3B	***Increase the number of adults who have had their low-density lipoprotein (LDL) tested.***	• *Follow the state diabetes template for training programs* • *Improve access to screening resources for indigent populations* • *Increase awareness of importance lipid control through media campaigns*	*CVH Alliance* pharmaceutical industry reps, community advocates*	*2006-2009*
1.3C	***90% of the state's health systems will provide training to health care professionals on cultural-competency and best practices in counseling patients on modifying risk factors.***		*CVH Alliance* pharmaceutical industry reps, community advocates*	*2006-2009*
1.3D	***Develop a plan and projected outcomes for youth-focused interventions based on analysis of the CDC youth health index, Youth Risk Behavior Survey (YRBS) and review of best practices.***			*2007-2009*
1.3 E	***Increase the number of youth (with diabetes aged 5-17 years old) who have their LDL controlled.***			*2007-2009*

Strategy 4: ***Create a voluntary statewide youth health index to monitor indicators of healthy behavior in all children (grades K-12), including BMI, physical activity, and blood pressure measurement.***

#	Objectives	Action Steps	Timeframe
1.4A	***A majority of WI public schools will participate in a voluntary youth health behavior index.***	• *Develop materials to educate school officials on the importance of CV risk prevention.*	*2009*
1.4B	***Increase by 50 % the number of youth aged 5-17 who have had their blood pressure measured within the preceding two years (developmental).***		*2009*
1.4C	***Increase by 50 % the number of youth aged 5-17 who have had a lipid panel done within the preceding two years (developmental).***		*2009*
1.4D	***Increase by 50 % the number of youth aged 5-17 who have had a A1C glucose >110 panel done within the preceding two years (developmental).***		*2009*

Goal 2: **Develop support tools to assist the population as a whole, patients and providers in long-term adherence to primordial and primary prevention treatment regimens.**

Strategy 1: Promote education and practice tools that support adherence to primordial and primary treatment regimes.

#	Objectives	Action Steps	Timeframe
2.1A	**Make support tools, standards and measures (eg treatment recommendations) readily available for use by providers and communities.**	• Solicit and collect education and practice support tools, standards and measures (eg treatment recommendations). • Post education and practice support tools, standards and measures to the CVH Stroke website or make available where they may be obtained. • Promote and maintain a CVH Stroke website listing of: o Stroke public education programs and materials and organizations. o Strategies and approaches to implement that will decrease the development of obesity, increase exercise, and provide well-balanced diets. o General prevention efforts (programs, resources, materials) targeting smoking cessation, obesity and diabetes. o Current evidence-based treatment recommendations. • Provide "information links" to DPH resources for tobacco, nutrition and physical activity, diabetes and other related departments. • Provide web links to organizations providing programs, strategies and materials. • Maintain a CVH Stroke website listing of WI community coalitions and the prevention issues, strategies and resources they are addressing in their community.	2005-2007
2.1B	**Communicate the availability of education and practice tools (disease management and medication adherence etc) to providers and communities.**	• Collect and assemble existing education and practice support tools (programs, resources, materials) responding to state's linguistic and education levels for target populations. These may include disease management programs and medication adherence interventions. • Make education and practice support tools available on the CVH Stroke website as resources to access or download. • Develop a plan to promote to providers and communities.	2005-2007

COMMUNITY EDUCATION

Goal 3: Support educational programs targeting high-risk populations and their families.

Strategy 1: Increase the public's awareness of modifiable risk factors associated with stroke.

#	*Objectives*	*Action Steps*	*Timeframe*
3.1A	***Identify target groups to receive community and worksite toolkits and identify their respective needs for resources.***	• *Create a list of potential target groups, e.g., faith-based organizations, educators, employers, insurers, and community organizations.* • *Determine what resources/information each group wants and needs.*	*2005-2007*
3.1B	***Develop a community-based toolkit (for business and community organizations) containing stroke resources.***	• *Identify and compile information on existing CVH programs and resources utilizing CVH Alliance partners and the CDC.* • *Identify available materials targeted to Hmong, African American, Native American, and Hispanic-Latino populations.* • *Organize information to address different age groups, to be user-friendly, and to distinguish evidence-based information and best practices.* • *Create a toolkit evaluation to assess toolkit usefulness.* • *Revise toolkit components based on evaluation feedback.*	*2005-2007*

3.1C	***Distribute the toolkit and offer training on the community-based toolkit to schools, community organizations, faith-based organizations, etc.***	• *Enlist the support of CVH Alliance members to promote the toolkit and trainings.* • *Identify existing conferences and associations through which to provide training on the toolkit for target groups.* • *List training events and contacts on the CVHP website.*	*2005-2007*
3.1D	***Distribute and offer training on the toolkit "Making the Business Case to Employers for CVH" to all health systems, and Wisconsin's top 200 employers.***	• *Encourage worksite wellness programs to incorporate programs for heart disease and stroke prevention and screening.*	*2005 and ongoing*
3.1E	***Coordinate with the Wisconsin Nutrition and Physical Activity Program to support efforts to improve nutrition and physical activity for Wisconsin residents.***		*2005-2007*

Strategy 2: Improve the public's awareness of the signs and symptoms of stroke and the need to call 911 immediately.

#	***Objectives***	***Action Steps***	***Timeframe***
3.2A	**Implement a public awareness campaign on the signs and symptoms of stroke and how to respond appropriately.**	• Disseminate information on signs and symptoms of stroke and call 911 to all Wisconsin communities. • Continue to support WI Stroke Alert Day in May each year.	2005 and ongoing
3.2B	**Develop and field a statewide survey on stroke signs and symptoms and call 911; monitor results over time; set goal once base is established.**	• Seek funding; identify partners who may assist such as business schools. • Work with ASA on questionnaire to parallel their national study.	2005-2007

Goal 4: Ensure that education efforts include community-based organizations, policymakers and other stakeholders.

Strategy 1: Encourage and assist community-based organizations to sponsor and promote local educational efforts.

#	Objectives	Action Steps	Timeframe
4.1A	**Enlist community-based organizations and other stakeholders to sponsor and provide educational efforts within their local communities.**	• Celebrate community educational successes with recognition for the CVH Program. • Promote on the CVH Stroke website community education activities and events for the public and others to access.	2005-2007

Strategy 2: Educate local and national policymakers about the need for an effective stroke system in the community and ways they can best support patients served by the system.

#	Objectives	Action Steps	Timeframe
4.2A	***Organize a plan to develop Stroke health policies and programs that support the Wisconsin Health Plan. Partners to convene a Summit to determine priority policy needs.***	• *Utilize CVH Alliance partners to bring people to the Summit* • *Identify potential barriers to address*	*2005-2007*

WISCONSIN STROKE PLAN 2005
Notification & Response of EMS for Stroke

A. Introduction

Notification/Response of EMS for Stroke: Ideal State
1. Processes that facilitate rapid access to EMS for patients with acute stroke are in place.
2. EMS dispatch uses the most current stroke treatment recommendations and dispatches EMS responders for strokes at the highest-level emergency response.
3. Emergency physicians are involved with stroke experts in the development of EMS stroke education materials; assessment, treatment and transport protocols for EMS providers. (This occurs nationally.)
4. All patients having signs or symptoms of stroke are transported to nearest primary stroke center.
5. EMS personnel can perform assessments & screening of patient for hyper-acute interventions.

The effective notification and response of EMS for stroke involves a complex interaction among the public, the applicable EMS programs and the relevant hospital emergency departments. Stroke patients or a bystander must recognize the signs and symptoms of stroke and the importance of calling the emergency response number (911 or equivalent) immediately to help initiate effective therapy as rapidly as possible.

EMS communicators (call takers and dispatchers) play a critical role in stroke recognition and determining the timing and type of EMS response to stroke. A systems approach can help implement measures that decrease the time from receipt of a call for a probable stroke and the dispatch of EMS personnel. In the absence of ongoing stroke-specific training and feedback, communicators may fail to identify a significant percentage of potential strokes even when callers spontaneously use the word “stroke” in communicating with the dispatcher.

Establishing programs that provide ongoing education for field EMS personnel to facilitate the accurate and rapid recognition of patients with acute strokes is essential to promote appropriate decisions involving the treatment, transport and destination of suspected stroke patients. Because EMS responders can frequently fail to identify strokes when support mechanisms are not in place, stroke recognition tools have been developed that assist EMS personnel in identifying patients with acute cerebral ischemia and intracranial hemorrhage with high sensitivity and specificity.

Recognition of stroke by EMS personnel is needed to guide both the transportation of patients to the most appropriate facilities and the initiation of stroke-specific basic or advanced life support prior to arrival at the hospital. Effective communication between EMS responders and receiving emergency departments is important in optimizing the efficiency of the hospital’s response to acute stroke. Time is saved when notification from EMS enables the emergency department to begin assembling the necessary personnel to treat an acute stroke patient. EMS responders and communicators also can play an important role in collecting information about the time of the onset of stroke symptoms. Such data can be essential to clinical decision making in the acute treatment of stroke.

There are potential benefits from coordinating air transport options with EMS to enhance stroke care. The use of helicopter-based transportation offers the potential to expand access to stroke therapies and services that are not widely available to patients in some rural and other neurologically underserved areas. When initiated quickly as part of a collaborative inter-facility system, helicopter-based transportation can reduce the time to emergency department arrival at hospitals that are equipped to treat acute stroke patients.

B. Current Status

Please rate Wisconsin's current status on *Notification/Response of EMS for Stroke* (on a scale from 1 to 5, 1 being poor (does not exist) and 5 being "ideal" state exists):

Processes in place for rapid access to EMS
Protocols match current recommendations

Transport to stroke center is norm

EMS personnel can assess/screen

1. **__3.0___ Processes facilitating rapid access to EMS** (Processes that facilitate rapid access to EMS for patients with acute stroke are in place.)

2. **__1.5 ___ EMS dispatch uses current treatment recommendations and highest-level emergency response** (EMS dispatch uses the most current stroke treatment recommendations and dispatches EMS responders for strokes at the highest-level emergency response.)

3. **__2.0___ ED physicians involved** (Emergency physicians are involved with stroke experts in the development of EMS stroke education materials; assessment, treatment and transport protocols for EMS providers.) (This occurs nationally.)

4. **__1.5___ Patients transported to nearest PSC** (All patients having signs or symptoms of stroke are transported to nearest primary stroke center.)

5. **__2.0___ EMS personnel perform assessments & screening for hyper-acute interventions** (EMS personnel can perform assessments & screening of patient for hyper-acute interventions.)

6. **__2.0___ Overall Score**

C. Inventory

List all of the assets and resources available to assist with the above recommendations.

Inventory of Notification/Response of EMS for Stroke Assets/Resources		
Organization (Source/Vendor)	Asset/Resource (Identify/Describe)	Assists with which Recommendation
Channing Bete | Laerdal | WorldPoint/ECC AHA	**American Heart Association - Stroke Prehospital Care With Continuing Education Hours (70-2253)** is an interactive CD-ROM designed to increase prehospital providers' knowledge about the two types of stroke and to demonstrate potential stroke-related complaints. It is a self-paced continuing education product that teaches the pathophysiology and risk factors of stroke as well as recognition, assessment and management of potential stroke. Through four interactive cases, participants are presented with patients who have stroke-related complaints and are prompted to make prehospital management decisions. This continuing education activity is approved by the Continuing Education Coordinating Board for Emergency Medical Services (CECBEMS). **Purpose/ Intended Audience:** Intended for use by prehospital care providers such as EMT-I and EMT-P.	#2
Channing Bete | Laerdal | WorldPoint/ECC AHA	**American Heart Association - Acute Stroke (70-2249)** is a continuing education product. This 50-page booklet is abstracted from Chapter 18 of *ACLS—The Reference Textbook. Volume I: ACLS: Principles and Practice* (70-2500) and provides a description of the symptoms, diagnosis and management of ischemic and hemorrhagic stroke and complications of stroke. It's for healthcare workers who, from the pre-hospital setting to the brain-oriented intensive care unit, treat suspected stroke victims. Purpose/ Intended Audience: For healthcare workers who care and treat suspected stroke victims. Accreditation: The American Heart Association (AHA) is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The AHA designates this educational activity for a maximum of 1.75 category 1 credits toward the AMA Physician's Recognition Award. This program (03-NC-511) has been approved by an AACN-approved provider (11527) under established AACN guidelines for 2.0 contact hours, CERP Category A.	#3; #5
AHA/ASA web-site	**Training to use the NIH Stroke Scale available on-line** -- Proper and fast stroke assessment is critical to ensuring the best possible outcome for the survivor and their families. The American Stroke Association, in conjunction with the American Academy of Neurology (AAN) and the National Institute of Neurological Disorders and Stroke (NINDS) has developed this free, CME/CEU certified, online training program for healthcare professionals to learn or review how to administer the NIH Stroke Scale for acute stroke assessment, using training videos developed by the NINDS. The Stroke Scale assess motor, sensory, and visual impairments, on a scale of 0-42 through a physical exam and a series of questions. By using this, the health professionals can tell what type of an stroke the patient is having and where the clot in the brain is. Emergency physicians, neurologists, nurses, and medical students can use this FREE online NIH Stroke Scale education tool and receive: On-line training videos and testing, CME & CEU credits and automatically receive certificate online.	#3; #5
AHA/ASA	**Algorithm for Suspected Stroke and Cincinnati Prehospital Stroke Scale - Card (70-2231)** This two-sided, laminated, 8 1/2" X 11" four-color card illustrates the Suspected Stroke Algorithm on one side and the Cincinnati Prehospital Stroke Scale on the other. The card is sized to be placed on the wall of an ambulance or hospital emergency room area as a helpful reminder. Sold in sets of five. Purpose/ Intended Audience: For use by emergency medical technicians and healthcare providers who need a quick reference to the Suspected Stroke Algorithm and the Cincinnati Prehospital Stroke Scale. **Spanish ACLS Pocket Reference Card: Acute Coronary Syndromes and Stroke Pocket Card (70-2665)** Spanish translation of the ACLS Pocket Reference Card: Acute Coronary Syndromes and Stroke Pocket Card. This 8-panel,	

	laminated, folding card provides the algorithms common to acute coronary syndromes and stroke, the relationship of the 12-lead ECG to coronary artery anatomy, and appropriate treatment protocols. The card fits comfortably in a lab-coat pocket for quick and convenient access. Suggested Use: For use by healthcare providers who need quick reference to essential algorithms for advanced cardiovascular life support.	
AHA/ASA	**Algorithm for Suspected Stroke (4' X 6 ½') - Laminated Card 70-2556** This two-sided card contains the Cincinnati Prehospital Stroke Scale on side one and on the reverse side the algorithm for suspected stroke.	
AHA/ASA	**Acute Ischemic Stroke - Poster (70-2173)** Single 22" x 34" four-color poster with four sections, including: Algorithm for Suspected Stroke Screening Scales for Stroke Fibrinolytic Therapy Checklist for Ischemic Stroke Emergency Therapy for Acute ischemic Stroke and Hemorrhagic Stroke. Packaged unfolded. Purpose/Intended Audience: Adjunct to teaching or a resource for the healthcare site.	
AHA/ASA	**ACLS Acute Coronary Syndromes and Stroke - Pocket Reference Card (70-2511)** Eight-panel, folding, four-color, 4" x 6 1/2" card provides algorithms common to acute coronary syndromes and stroke, the relationship of the 12-lead ECG to coronary artery anatomy, and appropriate treatment protocols. Card is a joint project of the American Association of Critical-Care Nurses and the AHA. Purpose/ Intended Audience: Quick reference for ACLS healthcare providers.	
AHA/ASA	E911 policy initiatives (advocacy team)	
AHA/ECC	AHA Training Courses - ACLS, ACLS Experienced, BLS, PALS	
Priority Dispatch Corp. www.prioritydispatch.net	The National Academy Field v11 Responder Guide-Medical Priority Dispatch System—"this guide is intended to provide EMS and Public safety responders with access to the National Academy EMD Protocol Responder Codes and determinant descriptors, to improve participation and quality in emergency medical dispatch". Purpose/Intended Audience: Firefighters, EMT's, Police Officers, Ambulance Officers and Paramedics. (Currently Stroke/CVA as identified under tab #28 in this field guide is Dispatched only as an "Alpha to Charlie" response).	#1, 2
Waukesha County EMS	Waukesha County EMS Guidelines/Standards of Care (3/10/03) – Guideline #414, Protocol/Guideline, standard of care re: Stroke/Cerebral Vascular accident/transient ischemic attack.	#3
Kansas Stroke Coalition -Kansas Rural Stroke Prevention Project, Box 755, Hays,KS 67601 (785)-628-1208	Brain attack Clinic Facility Transfer Checklist – Kansas Stroke Coalition— EMS transport checklist for stroke patient transports.	#3,4,5
University of Miami, Center for Research in Medical Education	Miami Emergency Neurological deficit (MEND) pre-hospital checklist – EMS transport checklist/form to document stroke patient data for transport.	#3,4,5
Ninds.nih.gov	The National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD. – Numerous resources, forms, data, etc. relating to all aspects of stroke and stroke prevention.	#2,3,5
www.WisconsinEMS.com	"Working Together"- Midwest Emergency Services Conference and Expo. Presented by WEMSA – Wisconsin Emergency Medical Services Association. Held the last week of January annually – hosts numerous seminars regarding a wide range of topics including stroke/neurological emergencies.	#2,3

D. Assessment for *Notification/Response of EMS*

Information and quotes provided from an interview with Dan Williams, EMS Section Chief, Office of EMS, DPH, March 7th and April 7th, 2005.

Goal 1:	**A stroke system should include processes that provide rapid access to EMS for patients with acute stroke and that dispatch EMS in the shortest time possible, given local resource availability.**

Strategy 1: Ensure that the public has ready access to EMS through enhanced 911 accessible thorough both landline and wireless telephones.

Enhanced 911 (Landline)

- Every county in the state (72 counties) has enhanced 911 on the landline.

Wireless E911

- Was to be in place 5 years ago but no mandate, no money in place, no funding.
  - ***Now there is funding through a surcharge on 911 on phone bills that will make this happen. County answering points that are going to have it will have completed it by the time the money runs out.***
  - Process? Answering points apply to the public service commission for the money as a grant; a plan needs to be in place for how the project is implemented. Some areas have their own dispatch center for their community but the 911call is transferred to them from the county answering point. The public service commission will aggregate the total cost of operation in the state and what it's going to cost to upgrade all the equipment and divide that by the number of wireless phones and that will be a surcharge on each bill.
  - There are an unknown number of (PSAPs) public safety answering points in the state across Wisconsin's 72 counties.
- ***Probably a one to three-year process (2005 – 2008) for the remaining areas.***
- Only one county with wireless E911in place, Waukesha County.
- Dane County may have wireless E911 by fall.
- Milwaukee County has just designated the Sheriff's Dept as the main answering point for emergency cell phone calls (there had been debate over the city or county handling the calls). The designation was needed by April 1 or the call center would lose state funds. The designation allows the Sheriff's Dept to upgrade its equipment to pinpoint the location of emergency calls made on cell phones. There is some discussion that the county could become a regional call center for southeast Wisc.

Ideas for Action:

- Promote urgency in moving forward in making the designation, obtaining funding and completing equipment upgrades.

Strategy 2: Ensure the nearest appropriate EMS response unit is dispatched immediately.

- **453** EMS services in Wisconsin.
- The issue of response walls: In Wisconsin, you can have dispatch done quickly but it may not be the closest response unit. There are boundary lines to EMS districts and the lines are not crossed even if there is an emergency right across the line.
  - This issue is present for every call that goes out. It is realized this is not the most efficient in expediting response.
  - There is history for some of the things that have gone on and some of that is the hard part to overcome.
  - In other areas of the state, districts will never budge from the system that is in place. Some areas will be open to discussion.
  - Having a stroke plan in place will help; EMS people by their nature certainly want to do the right thing.
- Dane County since last year has been working on a pilot project for critically injured patients to send the closest appropriate available unit and that unit may cross EMS lines.
  - This is more of a paramedic level that would be moving across the county line.
  - Recommendations recently made to extend the pilot and make it their policy for the closest appropriate ACLS unit to respond.
  - "This is a great thing in Dane County that they're building a project that works. Other people will point to that and say, "You could do it there" … in a county that's very political and has all kinds of other issues, they are able to overcome that to do this. So that's a great thing."
  - Is there a forum where Dane County EMS could present their pilot project and the outcomes from it?

        - Yes. There are conferences that EMS people attend throughout the year. "My sense is just, again, knowing how people can look at agenda items and things like that. Would this be a topic that people will grab onto as an agenda that's going to draw a hundred people to come in the conference? I don't know. Would they not do it? I don't know that either. But, again, it's new; it's different so that's the good point. People would be willing; it's not the same old little thing that you've heard every year at the conference."
        - It isn't necessarily the EMS community; it's the dispatch and emergency management. Dispatch is specifically more law enforcement oriented, which is different. WI has an association (NENA). They have their own conference in the fall. They potentially would be interested in something like this. They are always looking for people to present; they do a lot of breakout sessions. "So again, it's not a hurdle that can't be overcome but it's a very big problem."
- Is there a plan in place from the EMS side of things to look at these issues? Or is everything set and you're just working with what you have?
    - It's a very rural state. Every local government will tell you all the time, "we're going to do what we want to".
    - Every service is obligated to submit to our office an operational kind of plan on how they operate their service. Certainly, when we see those, we suggest, "Maybe you should consider this, you should consider that", so we do have an opportunity to reflect a little bit our will on them, but we don't have any authority in something like this to say, "You will call, you will make arrangements in this area to cover the closest service."
        - We just don't have that authority as a rule. We could certainly suggest that that makes sense and some people will say, "You're right. I want to make that change."
    - But we're gaining a little bit of ground. Even though the local service may not allow for the neighboring service to come in initially with intercept agreements, things like this are going on. If you have a basic unit here, there's an advanced unit over there, there's more interaction between those units now so they're getting there quicker than they used to a couple years ago.
        - So there are things changing -- but it's not changing as rapidly as we would like.

Ideas for Action:

- Promote the Dane Co pilot at EMS meetings and other venues to influence change over time for closest EMS district to respond and transport;
- Promote speakers on behalf of stroke to advocate for change to the current system;
- Gain the support of influential stakeholders, like PAC for example, to advocate for change.

Strategy 3: Develop goals for the time period between the receipt of the call to the emergency response number and the dispatch of the response team.

- ***Status: "I really think that most people are doing this pretty well. There are policies in place for how long the call can sit with the call and they QA that pretty carefully. I think that there are no significant delays in the time of call comes in until it's dispatched."***
- ***Issue of awareness level: The understanding that stroke care is now considered to be an emergency.***
    - ***Five years ago we were being told even by our medical directors that the damage is done, it's not a red light call -- that mindset is still out there.***
    - We need to figure out a way to educate people to get them to understand that this has changed.
- ***Issue is compounded by the reality of the geography of WI where 80% of WI EMS services is volunteer and in rural areas.***
    - ***We don't have any protocols for how to move the person in these rural areas in any kind of a timely fashion.***
        - ***We have people who have 35 to 45-minute response times to get to the patient and then an hour to the nearest hospital.***
            - ***Those areas can't fit into this model. They're going to miss all of the critical benchmarks for having an intervention. Truly for them, that really is we have a stroke and you're done.***
            - ***The further north, the farther apart the services are, and worse are the response times.***

Ideas for Action:

- ***Promote educational messages to dispatch and EMS response districts that stroke is an emergency etc;***
- ***Work to improve the call to dispatch protocols for rural areas of the state (invoke the trauma system's support of flight for life for stroke transport);***
- ***Advocate for the development of goals, the collection and tracking of data relating to the receipt of call to response team dispatch (for stroke).***

Strategy 4: Monitor adherence to the goals (strategy 3) and implement process changes as needed.

- Is data available on the time of the receipt of the call to the time of dispatch to the time of emergency response? Is this data collected?
    - Meg Taylor: This question asks if there is a surveillance system that's up and running here and there is not. There's not an ambulance run data system.
        - We have just purchased the trauma registry, which we'll give us at a little bit of trauma, but there is no data system that exists, trying to get it to happen.
- Mary Jo Brink: CVH Program has submitted a basic implementation grant to CDC with funding to support the Get With The Guidelines PMT for stroke for hospitals which may get at some of that EMS stuff because that's the front end of what has to be collected. From that we want to come up with a registry. We're going to look at working with 50 small hospitals in the first year. This year and next year, we want to pick up the rest because of grant funding.
    - There are like 34 elements that we'll be collecting with the basic tool. The tool was developed through the American Stroke Association and Outcome Sciences that was the company that developed the tool.
- ***Meg Taylor: The bigger question is: Instead of setting up another registry, make it part of an ambulance-run data system with a separate module if you're asking questions outside of our data system. I think that's a better thing instead of a separate registry on this particular line of 50 hospitals.***
    - ***We're working hard to get a standardized data set package together so that we can actually get a request for proposal to develop an ambulance-run data system. Our problem is cash.***
- Mary Jo: We're not duplicating anything. Maybe take the data elements from the Get With The Guidelines and merge them with yours to see where we are at.
- The ambulance-run data system, is it state wide and is it voluntary?
    - Meg: We can't mandate, but it would be voluntary and certainly, we're hoping that it will be statewide.
    - Dan: The rule allows us to mandate that we can get data from services but we have to be careful … pushing it on the edge. Some services don't have computers.
- Jeff: That is something ultimately, a legislature could mandate, that they report like the cancer registry.
- Meg: For a dollar a vehicle, we could have a very strong EMS system in the state.

Ideas for Action:

- Continuously monitor and report to the WSC on the state's progress toward the development of a data system for Wisconsin that would monitor eventual adherence to dispatch to response goals.

Goal 2:	**A stroke system should promote the use of diagnostic algorithms and protocols by EMS dispatchers that reflect the most current stroke treatment recommendations and should dispatch EMS responders for suspected strokes with the most rapid emergency response and within the same time limits/goals established for other acute events (eg, AMI and trauma).**

Strategy 1: **Ensure that EMS communicators have stroke education materials such as stroke guide cards available to assist in recognizing signs of stroke.**

- In the larger population areas of the state, how would we get the message out to the dispatchers or to the dispatch center so that we could raise the level of awareness that they need to have guide cards for stroke?
    - WI NENA (Dan can get contact information…the Rock Co dispatch director is their president, Dave Sleeter. He could help get that out.)
        - If you were to send this information through that group, I think we would get a fairly large acceptance of the people using it.
- We would certainly like to have every dispatcher be emergency medical dispatch qualified in giving pre-arrival instructions.
    - Now is not a great time to do that because they're implementing this wireless project and they're really saying, "I can't do any more than I'm already doing, I've got all those people going to training already." Timing is terrible for us on that topic right now because EMS Advisory Board would like to push that project through and that would be mandatory. But they also know that the time is not perfect to do that.
    - ***Now, I'm not sure how many programs are in place. I think somebody was doing a survey on … how many 911 dispatch centers in Wisconsin are giving pre-arrival instructions. When people give an operational plan to us, we ask them, "How are you dispatched?" and "what protocols are in place?" and "Does your county get pre-arrival instructions?"***
- ***The EMD is really two components.***
    - ***One part of it is the closest and the right people and the other part is the pre-arrival instructions. And a lot of people in Wisconsin will say "I don't have to worry about the priorities and instructions, since there is only one EMS service. So I don't have to think about it." Those were the issues.***

Regarding EMD:

- Do you know our laws in Wisconsin such that if somebody is trained and if you have a certified EMD, are there liability issues that prohibit them from giving pre-arrival?
  - No.
- I was reading on those states where what they did is kind of a progression, so to mandate a certification, what they did is change the liability laws in a way that protected and encouraged EMD certification.
  - Certainly, the argument that you will hear is that we don't want to do that because we're going to be sued for giving that information out.
  - So the programs about a medical director involved and are involved with the protocols and all of that, are certainly much better than the ones that are just grabbing somebody's material and giving those instructions.
- The public expectation now is such that they expect that that was going to happen. When they call 911, they expect somebody's going to help and tell them what to do. So it may be more of a liability issue … or not, but I think that's starting to be the conventional wisdom out there is that if you're not doing something, you're probably more liable than if you are…
- We are also working with Dr. Marv Birnbaum on a dispatch certification program through the co-lab at the university, and using it as the pilot for—what is it? It's not distance learning anymore. It's called something else. … of learning or something, and again, that might be a tie-in for you.

Ideas for Action:

- Seize opportunities for NENA distribution for educational messages and presentations at NENA meetings/conferences and other venue opportunities for education on stroke signs and symptoms and stroke as a medical emergency;
- Promote education on the movement to stroke systems of care and the state-wide changes taking place to communications/dispatch to encourage a new understanding of why this is important;
- Advocate for every dispatcher to be emergency medical dispatch qualified in giving pre-arrival instructions for stroke.

Strategy 2: Ensure that EMS responders use and are trained on validated scales (eg Cincinnati, Los Angeles, or similar scales) to aid the rapid and accurate identification of stroke patients.

- We can certainly make sure that in every EMT refresher classes given this year in the state everybody gets some of the Cincinnati Pre-hospital Stroke Scale cards.
  - That's easy and there's a 15-minute explanation by the instructor on why it's important and you have people filling up paperwork forever.
  - If there's new information they are going to absorb it, the new protocols are happy to involve with it and do what they can. It's just the matter of sometimes the execution is flawed, but it comes off in the end.
  - ***How many people will then say, "Yes, I'm happy to do all of this"?***
    - ***Maybe a quarter, maybe an eighth of the state is where this will really matter (the larger population areas).***
    - ***Protocols won't be in place anywhere else. Or for a change to really take place. Because they know it is too rural, it's too long to response. In the rural areas it becomes EMS persons saying I'm sympathetic to the cause but it's not going to matter because we're not going to get anybody to an appropriate center in the right timeframe.***
- We can make huge strides if we can change the mentality to make sure people understand that stroke is truly an emergency.
  - Five years ago, I can remember a medical directors saying, "It's just not. Don't waste your time. Don't waste the resources. Don't put yourself in jeopardy." So we need to change the mindset; this would be a huge change in people's minds.
- And then understanding why it's important.
  - In the more populous areas this will have a substantial change and an impact in the results we have.
  - Will it matter in rural Wisconsin? No. But it will matter a lot in those areas where the bulk of the population is.
- This stroke thing has gotten so bad over the last few years that the word "stroke" was taken out of all the textbooks. You couldn't even say the word "stroke" anymore in your class, according to the curriculum it was altered mental status. So it's not even a topic that you talk about individually anymore.
  - In the courses that I've always taught, that didn't bother me. I still taught about stroke because that's—people will need to understand that. But if you look at the textbook and look up stroke in the references in the appendix, it was in the book, you won't find it. There are more than just issues from Wisconsin that we have to deal with. These are national textbooks.
- We have a Web site and we could certainly publish that kind of information. There's an online class and we would maybe even try to work to give certain CME education approach approved for it through the national registry.

- Mary Jo: On your website can we also post information dealing with Wisconsin Stroke Alert day on May 5th?
    - The website so far has not been used in that fashion.
- The message needing to be heard: we have requirements on the number of hours that EMTs have to have to be re-licensed every two years.
    - We are pushing up against 50, 60 hours of really wonderful training in a system that is only mandating 30. The volunteers are saying that's too much. We can't be away from our job for 30 hours.
    - What are some alternatives? And so that's the problem when we have public health preparedness pushing at them with this new NIMS responsibility that they have to all be NIMS trained.
    - So it's a huge deal. … is just fitting all of that in technology and it's huge.
    - So alternative ways of—you talk a lot about Squad's actually having in-services. This could be simple a simple in-service rather than looking at…
    - This is the kind of program that we could put together and send out through our office as an education component to do at their monthly Squad meeting. ... we're going to have much more success doing that and to try to put … in terms of canned curriculum.
- I would suggest that we get you on the Physician Advisory Committee agenda to make the presentation to them and get suggestions from them on how we can work with the medical directors.
- ***We can send information from our offices (Office of EMS) for EMS services.***
    - ***We are in contact with the services all the time. So there are things that we can say, "Here are some new initiatives, here are some things you should be …"***
    - ***We're also in contact with all of the training centers and we can suggest to them and they'll tell us that we already have 30 or more hours on our educational programs and you can teach right now.***
    - ***But there are ways to get some of this information out there, which is probably better than where we are now where we're not getting information out.***
    - Virtually, every conference that's going on EMS-wise in the state this year, for sure, I'm speaking at. I could certainly make sure information gets distributed to everybody.
- A group mentioned earlier was ACEP.
    - They don't really have much impact on EMS, unfortunately.
    - You would have to have something more active and have more impact, but they have not taken that up as a priority, and not to say that they don't have some impact, because I think they get it through some of the physicians that we have on our advisor committee, but things coming from them directly is pretty nonexistent.

Ideas for Action:

- Make Cincinnati Pre-Hospital Stroke cards and other stroke education materials available at every EMT refresher course given next year and a 15-minute explanation by the instructor on why it is important;
- Promote on-line training tools for EMS on stroke through the Office of EMS web-site and work to offer credits through the national registry;
- Encourage EMS districts to provide education on stroke;
- Seize EMS conference and other venue opportunities (see above) for education on stroke signs and symptoms and stroke as a medical emergency to influence change of the mindset on stroke;
- Promote education on the movement to stroke systems of care and the state-wide changes taking place to EMS response to encourage a new understanding of why this is important in all regions of the state.

Strategy 3: Ensure that each local and regional EMS component within Wisconsin determines goal response times for suspected stroke patients that are tailored to the local or region's resources and infrastructure (balancing the availability of different level of responders and the need for rapid transport to an appropriate hospital).

- Currently a minority of dispatch centers is well-attuned to stroke signs.
- A small number of dispatch centers have "canned, pre-hosp assessment criteria" that is used for pre-arrival instructions or a book
- Difficulty arises with small dispatch centers of one dispatcher on a shift – it becomes a time issue to get into depth as you could with a larger dispatch center and more people to cover calls – there is an obligation to answer all calls
- One person dispatch centers with responsibility to be the 911 answering point are decreasing and where it is present it may be on 3rd shift where there is one person only. One-person centers have the responsibility to screen the calls because it is the receiving end of the call.

- Most computerized dispatch programs are vendor products – some have their own such as UW. Stroke may be an option, an add-on for additional cost that is a barrier.
- The philosophy or mindset is changing in that there is an expectation from the public -- they expect to have this information available so it may not be the first throw away when computer program options are being considered; "there is more liability if we don't do something as opposed to if we do"
    - *0 – 85% of dispatcher workload is law enforcement and 15% or so is fire/EMS
    - Where you have civilian dispatchers as opposed to sworn deputy dispatchers there is more acceptance – dispatch for deputies is more the "penalty box". For civilian dispatchers, it is what they want to do – the care factor is higher. This will have a huge impact on how successful this will be.
- High turnover in dispatcher jobs – not very well paid and very stressful – someone is constantly in training, they are short-handed and working 10-12 hr shifts.
- Setting goal response times for stroke patients will be very local/regional – no one number will fit state-wide. Local/regional areas will come on board with goal # over time not all at once. It is important to emphasize that it will be determined regionally. It will be very important to have stroke treated as an emergency then the response rate will improve. Response rates in small more rural communities will always be longer than urban areas. Changing the mindset that stroke is truly an emergency will have a huge positive impact.

Ideas for Action

- Send a packet of information to each dispatch center (known public safety answering points) might increase to 50% or higher interest and action in moving to assessing for stroke – a step in the right direction.
    - Work through the Dept of Justice, Div of Criminal Investigation, Training Division – it will get more attention than being sent from EMS.
    - Provide one-page laminated sheet for stroke.
    - Package message as a good health intervention ("we are trying to add value to what you do") not "the state telling them one more thing to do".
    - Use a scenario story (relate a family story and a successful outcome) in relating the value of the message, and relay the outcome when it is handled correctly, make it more personal.
    - Having stroke treated as an emergency will increase response rates.
- Work with DOJ (they do the training for dispatch) to make stroke a training segment for dispatchers – 15 or 20 min of training of their 10 hrs of training – make it burden-less and this might attract an audience.
- Survey to identify what computerized programs dispatch centers are using, what they are and if stroke is a part of the program.

Goal 3:	**A stroke system should ensure the direct involvement of emergency physicians and stroke experts in the development of stroke education materials, communication and field assessment protocols, treatment protocols, and transport protocols for EMS providers. Such training and protocols should focus on stroke recognition, triage/transport decisions, and early notification to the receiving hospital.**

Strategy 1: **Ensure that frequent and meaningful dialogue takes place among the pre-hospital providers, ED directors, and stroke center directors regarding operational issues and collaborative educational efforts.**

Strategy 2: **Determine and deliver the initial and continuing education needed to provide optimal patient care.**

- The EMS person is the easiest to change because they want to do what is right. They will seize the newer information, and better ways to do something – they will grasp and run with that. That's where sending out things from the EMS office will be beneficial.
- It adds up to building baseline education right now – trying to get people to a place where they understand what's occurring with stroke systems of care changes across the state and that this group of patients – stroke – should be treated in a certain way. In time this will become part of the model.
    - It's an uphill climb from 5-6 yrs ago when the stroke patient was deemphasized.
    - The EMS side will be the easiest to "crack", the dispatchers will be the hardest.

Ideas for Action:

- Sending out a package to EMS with "a new protocol, here's a sample and how to evaluate these patients, here's a sample for that. They'll be lined up, I can guarantee you, they'll be lining up in their policy and procedure books."
- Dan will present to 7-8 major groups over the year and will include 2/3 slides in his PPT presentation and provide him with handouts.

Goal 4:	**A stroke system should ensure that all patients having signs or symptoms of stroke be transported to the nearest primary stroke center (or hospital with an equivalent designation), given currently available acute therapeutic interventions. Air transport should be considered to shorten the time to treatment, if appropriate. Stroke patients who are not candidates for hyper-acute interventions should be evaluated at the closest hospital and considered for transfer, if appropriate, to a primary stroke center or other facility through established referral processes.**

Strategy 1: **Strategies will need to be developed based on the white paper commentary provided on page 6.**

- Several audiences need to be brought on board (political issues to overcome):
  - This is potentially an area that could be a little more difficult and we are going through that right now with the trauma system. City/local ordinances also need to reflect and support system changes…
    - **"We have triage and transport dialing off of the trauma system and we didn't think that that was going to be that big of a deal and it is turning into being a nightmare because … you can't tell me where to take my patient kind of thing. And we're really saying, we're not talking about 98% of your patients. We're talking about that 2% that really need to be in a trauma center. That's what this protocol is for."**
    - There are places where city/local ordinances do not permit transport out of local area. In these cases they have to transport to the local hospital and then transport out to another hospital.
  - Medical directors for EMS services also have a say in where their patients of the service go.
  - Hospitals themselves weigh in on decisions as it affects their revenues.

Ideas for Action:

- Be aware that city/local ordinance will need to change to reflect and support systems developments. Other things need changing too when you change triage and transport destination-type changes.
- Raise awareness that PSC exist and they are the best place for patient care .. and build this into every aspect of the system .. eventually people understand and feel this makes sense. Start from "what's best for the community and for your service". Down side is it may be a slower process. This is a process and it has to build momentum. EMS advocates can be a very strong component but need to educate them and win over their support. A bottom up approach is slower but most effective in education.
- Include in the education component that PSC are happening and JCAHO accreditation.

Goal 5:	**A stroke system should ensure that EMS personnel perform and document agreed upon stroke patient assessments and screening of candidates for thrombolysis or other hyper-acute interventions, as such interventions become available.**

Strategy 1: **Ensure that all potential stroke patients be scored and screened for stroke signs and symptoms, time of onset, and contraindications to thrombolytic therapy or other hyper-acute therapies that may become available through completion of forms or other methods (as agreed upon by the local stroke community in collaboration with EMS) to provide written or transmitted data to the receiving hospital.**

Strategy 2: **Ensure that scoring and screening tools are a part of a comprehensive quality improvement program and be improved and refined as needed.**

- This goes back to baseline education and giving them the tools.
- EMS office can be very proactive in information getting out and in bringing influence to the training centers, the service providers and to some extent the hospitals themselves.
  - In Sept work with training center refresher classes.

E. Action Plan

Wisconsin Stroke Plan
Notification & Response of EMS
2005 - 2007

Goal 1:	**Include processes that provide rapid access to EMS for patients with acute stroke and that dispatch EMS in the shortest time possible, given local resource availability.**

Strategy 1: Ensure that the public has ready access to EMS through enhanced 911 accessible thorough both landline and wireless telephones.

#	Objectives	Action Steps	Timeframe
1.1A	**Encourage PSAPs/dispatch centers to move forward to obtain available funding and complete equipment upgrades for wireless E911; assist as possible.**	• Work with Wisconsin Public Service Commission to promote availability of funding and information available. • Encourage sharing of information at educational venues across the state by PSAPs completing the process.	2005-07

Strategy 2: Ensure the nearest appropriate EMS response unit is dispatched immediately.

#	Objectives	Action Steps	Timeframe
1.2A	**Promote the Dane County pilot project for presentation to influence change over time for the closest EMS service to respond and transport.**	• Engage Dane Co. to present their pilot project around the state at EMS and NENA state conferences and local meetings. • Secure opportunities for Dane Co. to present at EMS and NENA state conferences and local meetings.	2005-07
1.2B	**Educate and advocate for change to the current system.**	• Recruit advocates and train speakers. • Secure speaking opportunities at EMS and NENA state conferences and local meetings. • Work with the EMS Alliance as a resource for education and training.	2005-07
1.2C	**Gain the support of influential stakeholders, like PAC for example, to advocate for change.**	• Communicate with the EMS Advisory Board and EMS Physician Advisory Committee keeping them appraised of stroke systems developments and implications for dispatch and EMS. • Work with the EMS Alliance as a resource for education and training.	2005-07

Strategy 3: Develop goals for the time period between the receipt of the call to the emergency response number and the dispatch of the response team.

#	Objectives	Action Steps	Timeframe
1.3A	*Raise awareness among PSAPs/dispatch centers and EMS services that stroke is now considered a medical emergency.*	• Promote educational messages to PSAPs/dispatch centers and EMS services that stroke is a medical emergency etc. overcoming past messages where stroke was not considered an emergency.	2005-07
1.3B	*Engage rural areas and EMS volunteer services in rural areas to address (plan) for how they may improve response times.*	• Encourage rural areas to use the trauma system's support of flight for life for stroke patient transport.	2005-07
1.3C	*Advocate for the development of goals and the collection and tracking of data relating to the time of incoming call to response team dispatch for stroke.*	•	2005-07

Strategy 4: Monitor adherence to the goals and implement process changes as needed.

#	Objectives	Action Steps	Timeframe
1.4A	**Support the development of a surveillance system or ambulance run data system.**	• Continuously monitor and report to the Wisconsin Stroke Committee on the state's progress toward the development of a data system for Wisconsin that would monitor eventual adherence to dispatch to response goals. • Ensure collaboration on the development of the stroke registry and the ambulance run data system so separate systems are not created. • Encourage that reporting to the ambulance run data system is mandatory and state-wide.	2005-07

Goal 2: Promote the use of diagnostic algorithms and protocols by EMS dispatchers that reflect the most current stroke treatment recommendations and should dispatch EMS responders for suspected strokes with the most rapid emergency response and within the same time limits/goals established for other acute events (eg, AMI and trauma).

Strategy 1: Ensure that EMS communicators (PSAPs/dispatch centers) have stroke education materials such as stroke guide cards available.

#	Objectives	Action Steps	Timeframe
2.1A	**Raise awareness and educate PSAPs/dispatch centers on stroke signs and symptoms and stroke as a medical emergency.**	• Distribute signs and symptoms and stroke is a medical emergency, call 911 educational messages to all EMS PSAPs/dispatch centers and present at NENA conferences and meetings and other venue opportunities throughout the state. • Work with the EMS Alliance on education and training.	2005-07
2.1B	**Distribute stroke guide cards.**	• Develop and distribute stroke guide cards to PSAPs/dispatch centers and at conferences and meetings.	2005-07
2.1C	**Educate PSAPs/dispatch centers on the movement to stroke systems of care, primary stroke systems and statewide changes taking place to encourage a new understanding of why it is important to assess and dispatch stroke as a medical emergency.**	• Provide presentations and resources on stroke systems and primary stroke center developments and on-going systems change updates and changes occurring throughout the state. • Work with the EMS Alliance on education and training.	2005-07
2.1D	**Advocate for every dispatcher to be emergency medical dispatch qualified in giving pre-arrival instructions for stroke.**	• Collaborate with the WI Advocacy Committee and provide support to their initiative.	2005-07

Strategy 2: Ensure that EMS responders use and are trained on validated scales (eg Cincinnati, Los Angeles, or similar scales) to aid the rapid and accurate identification of stroke patients.

#	Objectives	Action Steps	Timeframe
2.2A	**Promote validated scales and stroke materials to EMS responders.**	• Distribute Cincinnati Pre-Hospital Stroke cards and other stroke education materials at every EMT refresher course given next year and a 15-minute explanation by the instructor on why it is important.	2005-07
2.2B	**Promote on-line training tools on stoke for EMS service responders through the Office of EMS web-site and work to offer credits through the**	• Provide training tools for stroke for posting on the CVH website; work with the EMS Aliance for education and training. • Develop a communication plan to promote to EMS services.	2005-07

	national registry.		
2.2C	**Encourage EMS services to provide education on stroke.**	• Engage WI EMS services to support available educational opportunities on stroke by EMS responders. • Collaborate with EMS Alliance for education and training.	2005-07
2.2D	**Seize opportunities in all regions of the state to influence change on the current stroke mindset and encourage a new understanding of why this is important in all regions of the state.**	• Develop a concise powerpoint presentation on stroke (signs and symptoms, stroke as a medical emergency, movement on stroke systems of care, on-going systems change developments etc.) for presentation at EMS services venues (EMS conferences and training sessions) throughout the state.	2005-07

Strategy 3: **Ensure that each local and regional EMS component within Wisconsin determines goal response times for suspected stroke patients that are tailored to the local or region's resources and infrastructure (balancing the availability of different level of responders and the need for rapid transport to an appropriate hospital).**

#	Objectives	Action Steps	Timeframe
2.3A	**Raise awareness among PSAPs/dispatch centers of the importance of assessing for stroke upon call intake and the value of securing certain data elements.**	• Encourage the Dept of Justice, Div of Criminal Investigation, Training Dept. to make stroke a training segment for dispatchers. • Provide one-page laminated sheet for stroke. • Package message as a good health intervention ("we are trying to add value to what you do") not "telling them one more thing to do". • Use a scenario story (a family story and a successful outcome) in relating the value of the message, and relay what the outcome was when handled correctly to make it more personal. • Assist DOJ in developing training segment for dispatchers (15 or 20 min of training of their 10 hrs of training).	2005-07
2.3B	**Identify PSAPs/dispatch centers using computerized programs, what program is used and if stroke is a part of the program.**	• Survey PSAPs/dispatch centers across the state.	2005-07

Goal 3: **Ensure the direct involvement of emergency physicians and stroke experts in the development of stroke education materials, communication and field assessment protocols, treatment protocols, and transport protocols for EMS providers. Such training and protocols should focus on stroke recognition, triage/transport decisions, and early notification to the receiving hospital.**

Strategy 1: **Ensure that frequent and meaningful dialogue takes place among the pre-hospital providers, ED directors, and stroke center directors regarding operational issues and collaborative educational efforts.**

#	Objectives	Action Steps	Lead Organization(s) and Partners	Timeframe
3.1A	**Work with WSC Acute Stroke panel to encourage dialogue and training between pre-hospital and hospital providers regarding operational issues and collaborative educational efforts.**	• Form a collaboration panel between WSC Acute Stroke panel and WSC EMS panel for the development of stroke training and protocols for EMS providers across the state. • Mutually determine needs for training and protocol development etc. • Develop training programs and protocols.	WSC EMS panel WSC Acute Stroke panel EMS Advisory Board EMS Physician Advisory Cmte EMS Alliance DPH/Office of EMS	2005-2007

Strategy 2: **Determine and deliver the initial and continuing education needed to provide optimal patient care.**

			Timeframe

#	Objectives	Action Steps	
3.2A	**Support continuing education for EMS providers/responders during educational and training venues across the state.**	• Develop and distribute package to EMS services with "a new protocol, here's a sample and how to evaluate stroke patients." • Seize opportunities for Dan Williams to present to 7-8 major groups over the next year, include 2/3 slides in PPT presentation and provide him with handouts.	2005-07

Goal 4: **Ensure that all patients having signs or symptoms of stroke be transported to the nearest primary stroke center (or hospital with an equivalent designation), given currently available acute therapeutic interventions.**

Strategy 1: **Support the transport of stroke patients to the nearest primary stroke center.**

#	Objectives	Action Steps	Timeframe
4.1A	**Assist in raising awareness of primary stroke centers at the community level (city ordinances) and with EMS medical directors and hospitals.**	• Assist in making changes to city ordinances to support triage and transport destination changes. • Utilize EMS advocates to assist with system change influence.	2005-07

Goal 5: **Ensure that EMS personnel perform and document agreed upon stroke patient assessments and screening of candidates for thrombolysis or other hyper-acute interventions, as such interventions become available.**

Strategy 1: **Ensure that all potential stroke patients be scored and screened for stroke signs and symptoms, time of onset, and contraindications to thrombolytic therapy or other hyper-acute therapies that may become available through completion of forms or other methods (as agreed upon by the local stroke community in collaboration with EMS) to provide written or transmitted data to the receiving hospital.**

#	Objectives	Action Steps	Timeframe
5.1A	**Raise awareness of need and value of EMS personnel performing pre-arrival stroke assessments and documenting patient data and communicating with receiving hospital; provide training.**	• Develop a plan for training EMS personnel and providing resources. • Collaborate with EMS Alliance on education and training.	2005-07

Strategy 2: **Ensure that scoring and screening tools are a part of a comprehensive quality improvement program and be improved and refined as needed.**

#	Objectives	Action Steps	Timeframe
5.2A	**Support the development of comprehensive quality improvement programs in larger metro areas**	• Provide resources and consultation as requested from the Wisconsin Stroke Committee.	2005-07

WISCONSIN STROKE PLAN 2005

Acute Treatment for Stroke

A. Introduction

Acute Treatment for Stroke: Ideal State
1. An inventory exists of hospitals in the state, along with their acute stroke treatment capabilities and limitations. This inventory is made available to primary care providers, EMS and the public. (Use JCAHO certified stroke center list to help develop this inventory.) Roles played by each type of hospital are identified as part of the inventory. *NOTE: The inventory should be completed by the collaborative or oversight body for stroke systems in the state.*
2. Strategies exist for hospitals that do not intend to seek stroke center status to ensure they have action plans to triage, treatment (or transport) stroke patients.
3. Roles played by each type of hospital within the system are identified and the responsibilities inherent in those roles defined.

Hospital certification, designation or licensure may be accomplished through a variety of organizations (e.g., non-profit companies, state health agencies, professional societies or JCAHO).

Hospitals with limited resources must develop plans to collaborate with nearby primary and/or comprehensive stroke centers, including formal transfer agreements. Primary and comprehensive stroke centers (i.e., hospitals with specialized resources and personnel available to provide stroke treatment and rehabilitation that surpass the resources expected of primary stroke centers) should accept responsibility for collaborating with other facilities in ways that promote patient access to appropriate care. Each hospital should take responsibility for meeting its obligations to the broader stroke system.

NOTE: It is not the role of the AHA/ASA to evaluate hospitals. AHA/ASA has partnered with JCAHO to create the Primary Stroke Center Certification program because JCAHO has the expertise needed to appropriately evaluate hospitals. Should your collaborative opt to survey hospitals that are not certified in order to attempt to assess their readiness, AHA/ASA teams are not advised to visit or evaluate hospital sites. Self-reported surveys may be used by the collaborative as one method to gather needed information.

B. Current Status

Please rate Wisconsin's current status on *Acute Stroke* (on a scale from 1 to 5, 1 being poor (does not exist) and 5 being "ideal" state:

Hospitals are identified with PSC or other status
Roles of all hospitals are defined
Resources are available for non-stroke centers

1. **__1.0___** An **inventory** exists of hospitals in the state along with their acute stroke treatment capabilities (hospitals are identified with PSC or other status).
2. **__1.0___ Strategies** exist for hospitals that do not intend to seek stroke center status to ensure they have action plans to triage, treatment (or transport) stroke patients.
3. **__1.0___ Roles** played by each type of hospital within the system are identified and the responsibilities inherent in those roles defined.
4. **__1.0___ Overall Score**

C. Inventory

Identify assets and resources available to assist with the above recommendations.

Inventory of Acute Stroke Assets/Resources	
Organization (Source)	**Asset/Resource (Identify/Describe)**
AHA/ASA	AHA/ASA website (americanheart.org) Ad Council campaign to drive awareness of acute stroke response Acute Stroke CME course (ECC) Acute Stroke Treatment Program Get With The Guidelines/Stroke Free Online NIH Stroke Scale Training Stroke: When Minutes Matter (senior education for acute stroke response) JCAHO Primary Stroke Center Certification program

Identify hospital status available to assist with above recommendations.

Acute Treatment for Stroke Wisconsin Hospital Inventory			
Hospital Name	**City**	**Certified Primary Stroke Center? (Y/N)**	**If no, what role does hospital play?**
Theda Clark Medical Center	Neenah	Y (JCAHO)	
St. Vincent's Hospital	Green Bay	Y (JCAHO)	
Froedtert Lutheran Memorial Hospital	Milwaukee	Y (JCAHO)	

D. Assessment for *Acute Stroke*

Recommendation 1: A stroke system should determine the acute stroke treatment capabilities and limitations of all hospitals and make these available to primary care providers, EMS and the public.

- Rated at 1.0 out of 5.

Recommendation 2: A stroke system must develop strategies that incorporate hospitals that do not intend to seek stroke center status. All hospitals and facilities that could be involved in the care of acute stroke patients should develop action plans for the triage and treatment (or transport) of stroke patients.

- Rated at 1.0 out of 5.

Recommendation 3: A stroke system should ensure that hospitals identified as acute stroke-capable possess the appropriate resources and deliver primary stroke care, as outlined in national recommendations, based on local or national certifying bodies.

- Rated at 1.0 out of 5.

Recommendation 5: A stroke system should identify the roles played by each type of hospital within the system and define the responsibilities inherent in those roles.

- Rated at 1.0 out of 5.

Notation: At the March meeting the panel agreed the following applied to the recommendations above.

- **Current situation:**
  - 3/102 (3%) acute care hospitals in Wisconsin are JCAHO stroke certified
  - 21/102 (20%) acute care hospitals have verbally expressed interest in JCAHO certification (increased from 9% to 20% since mid-Feb)
  - 49/102 (48%) hospitals self-reported their BAC Recommendation status in 03-04; data collection was face to face interviews conducted by AHA Health Initiatives Directors using the BAC Recommendations checklist; hospitals interviewed represent 78% of stroke admissions in WI (2002).
    - 13 of the 49 self-reporting hospitals indicated they met all 12 BAC Recommendations.
      - Of the 13 hospitals, 3 hospitals are now JCAHO certified and an additional 6 hospitals have indicated interest in becoming JCAHO certified – a total of 9 of the 13 are "leading the way".
      - The following scenarios apply to several of the 13 hospitals: in discussion with administration on JCAHO certification and part of a health system determining which hospital(s) in a local area will be the JCAHO certified hospital
    - Across the 49 hospitals the following percentage met each of the 12 BAC Recommendations:
      - 67% Acute stroke team
      - 86% Written protocols
      - 90% EMS agreement
      - 86% ER personnel trained
      - 88% Stroke unit
      - 92% Neurosurg services
      - 35% Stroke center dir
      - 94% Neuro-imaging services
      - 94% Lab services
      - 31% QI
      - 33% Continuing education
      - 67% Public programs

- Publication of PSC certified hospitals would need to be through a very public tool like a website (CVH Program site for example) and be accessible to hospitals and EMS providers.
    - Our goal is not to publish or publicly report "self-reported" hospital data captured from hospitals, one reason being potential lawsuits.
- What can be published eventually is a list of those hospitals certified by JACHO (and the more realistic timeframe may be 3+ years down the road). Hospitals certified by JACHO are available on the JCAHO website.
    - With few Wisconsin hospitals currently certified (3) and 21 reported as verbally expressing interest in JCAHO certification, publishing a list may be down the road 2 to 3+ years.

- **Improvement suggestions:**
    - Increasing the number of hospitals meeting PSC recommendations and becoming JCHAO certified; those hospitals not planning to meet PSC recommendations and becoming JCHAO certified need to have a plan for their role in the acute care system for stroke.
        - Promotion of the WSC and its purpose; promotion of *Recommendations for Stroke Systems of Care* and *BAC Recommendations*.
        - Training and education across hospitals to educate on PSC, JCAHO certification and *Recommendations for Stroke Systems of Care* to assist them in making informed decisions.
            - Promote a call to action message: It's time for hospitals to consider their strategic decision on their hospital's position in the stroke system of care, and accordingly undertake the needed infrastructure alignments to become a PSC and be certified -- or not.
            - For hospitals wishing to become PSC and certified, training and assistance on strengthening their infrastructure to become a PSC and certified.
            - For hospitals with few or no stroke admissions provide awareness of stroke systems of care developments and training and education to determine the hospital's role in the stroke system of care.

- **Obstacles/Barriers:**
    - This will take time – will not be accomplished in one or two years.
    - Information void on 53 non-surveyed hospitals relative to meeting BAC Recommendations and interest in JCAHO certification (2 of these 53 hospitals have expressed interest in JCAHO). (The possibility of a web-based survey to the DPH was mentioned)
    - Information void on triaging of patients; a lack of clear information about transfer agreements.

- **Critical success factors:**
    - A "critical mass" of PSC certified hospitals is needed before Wisconsin publication occurs.
    - Surveying hospitals in Wisconsin to address the information void.
    - Incorporating education recognizing the lack of knowledge in regions of the state.
    - Recognizing there are potentially two hospital segments to reach and developing different approaches for each:
        - *Hospitals not surveyed and not informed on PSC/JCAHO (the 53):* Education and training to hospitals to assist them in making informed decisions on their hospital's role in the stroke system of care.
        - *Hospitals surveyed and informed on PSC/JCAHO (the 49):* Assistance (education, training, seminars) for hospitals interested in strengthening infrastructure to become a PSC from JCAHO, involve presenters supporting BAC Recommendations and Stroke Systems of Care, tapping into hospitals who have completed this step (potentially the JCAHO certified hospitals).

Recommendation 4: A stroke system should ensure that clinical pathways are used consistently to ensure the organized application of interventions to prevent or limit stroke progression or secondary complications.

- Rated at 1.0 out of 5.

- **Current situation:**
    - Seen as a separate issue and will have separate solutions.
    - The question of clinical pathway would apply in any hospital, a rural hospital with limited resources versus a stroke center. Every hospital.
    - This is a concrete goal that we could meet -- and have a big impact to help facilitate that every hospital has access to tools like clinical pathways, and then we could promote what performance measures should be in your pathway. We could create a model for hospitals to apply.

- This is viewed as a very specific goal directed recommendation.
- Requests received by the AHA QII Director for clinical pathways – they just need more information and want examples.

- **Improvement suggestions:**
  - Make clinical pathways accessible on the Web
  - Promote what elements should be included in the pathway as a skeleton for hospitals to then apply in their own systems.
  - On the joint commission Web site are all of the clinical guidelines available to the public. We should promote. This will certainly help improve the recommendation. There is access to about 40 different articles and things for clinical guidelines that people could use when they're developing their clinical pathways. The references are right there.
  - Would it be possible to consolidate the main ideas from all those guidelines into one document?
    - I think sites do that differently whether they're doing orders or care plans.
    - Diane, do you have orders and care plans for your clinical pathways for stroke? Yes, there is a pathway and a separate standing order. We consider them a tool set, and I think question four could apply to that. Individual hospitals really have to cater their needs and can pick and choose the flavor they're going to use.
    - It's kind of a culture that the hospitals have to get the information and the standard of care. I think if we could provide them a template and where they find the clinical information, that's what we used.
  - Mary Jo: Model a work group after the guidelines for heart disease and stroke for the state of Wisconsin for clinics and health care practitioners.
    - "It took us about 20 months, but we pulled all the guidelines together. This is a different situation, I agree, and we came up with a two page laminated tool that we put on the Web and also mailed out to over 7500 practitioners. So if we could develop a tool or tool set, there is not reason we couldn't put it on the Web and mail it out."
    - Use this as a give-back for responses to survey.
  - Promote use of the ASA's Acute Stroke Treatment Program kit.
  - Make use of a website for example www.wisconsinstrokeprotocols. "We can *Wisconsin-ize* whatever we need to."

- **Obstacles/Barriers:**
  - One of the barriers in this item is common to all the other recommendations. How will we reach all the hospitals with this information and resource? How do we promote awareness of this among the state?
    - Answer: You put it on the Web to provide it for everyone.
  - The lack of guidelines in practice protocols.
    - "Unlike ACLS where basically providing everything cookbook for the physicians and staff, the stroke side of it, we really don't and I think we need to move more in that direction and make it easy for the hospitals, pull down practice guidelines and set orders if they chose to use them. If they want to go out and hybrid it to their facility and their practice structure, so be it. But I think we have to make it as easy for the hospitals as possible to adopt this approach."

E. Action Plan

Wisconsin Stroke Plan
Acute Stroke
2005-2007

Goal 1:	**Determine the acute stroke treatment capabilities and limitations of all hospitals and make these available to primary care providers, EMS and the public. (Use JCAHO certified stroke center list to help develop this inventory.)**

Strategy 1: **Encourage hospitals providing ED services to function as a primary stroke center or to rapidly transfer appropriate patients through the use of pre-negotiated inter-hospital protocols and transfer agreements and transport protocols.**

#	Objectives	Action Steps	Timeframe
1.1A	**Identify the capabilities and limitations of every Wisconsin hospital.**	• Develop and field a survey to capture the capabilities and limitations of every hospital. • Utilize BAC recommendations and JCAHO elements. • Explore the current reimbursement patterns for TPA treatment among state hospitals.	2005-2006
1.1B	**Establish a registry, index, or resource list to identify every Wisconsin hospital and its stroke service capabilities.**	• Identify every hospital in the state and its stroke service capabilities utilizing BAC recommendations and JCAHO elements. • For hospitals planning to become JCAHO/primary stroke centers post the elements they currently meet vs. must meet and periodically assess their status or progress. • For hospitals not planning to become primary stroke centers post their capabilities and limitations, date to have an action plan/steps in place for transfer and periodically assess status or progress on plan. • Define categories for hospitals such that "primary stroke centers will have the capability to implement x, y, z and non-stroke centers will have to implement x, y, z". • Promote knowledge of this index across the state to EMS and primary care.	2005-2007
1.1C	**Increase the number of hospitals meeting primary stroke recommendations and becoming JCAHO certified.**	• Continue to raise awareness and keep Wisconsin hospitals updated through the Wisconsin Stroke Committee on stroke developments underway. • Provide baseline education, training and resources (in-person, "webinars" or teleconferences) to Wisconsin hospitals on stroke systems, primary stroke centers and JCAHO certification. • Provide specific informational sessions on special topics (how to make infrastructure changes, process suggestions etc). • Provide web-based resources including conferences and links on the CVH Stroke web page.	2005-2007
1.1D & 2.1A	**Provide education and resources on options and action steps (triage and transfer) for hospitals that will not seek JCAHO certification as a primary stroke center.**	• Provide education, training and resources on options and action steps (triage and transfer) for hospitals that will not seek JCAHO certification as a primary stroke center. • Provide web-based resources including conferences and links on the CVH Stroke web page.	2005-2007
1.1E	**Educate EMS services about the identity of hospitals and the stroke registry (what hospitals are providing).**	• Develop a plan to educate EMS services.	2005-2007

Goal 2:	**Develop strategies that incorporate hospitals that do not intend to seek stroke center status. All hospitals and facilities that could be involved in the care of acute stroke patients should develop action plans for the triage and treatment (or transport) of stroke patients.**

Strategy 1: **Non-certified hospitals and other facilities should have pre-determined plans to collaborate with other facilities (e.g., via telemedicine or transport protocols) to ensure patients receive optimal stroke care.**

#	Objectives	Action Steps	Timeframe
2.1A	**Provide education and resources on options and action steps (triage and transfer) for hospitals that will not seek JCAHO certification as a primary stroke center.**	• Provide education, training and resources on options and action steps (triage and transfer) for hospitals that will not seek JCAHO certification as a primary stroke center. • Provide web-based resources including conferences and links on the CVH Stroke web page.	2005-2007

Goal 3: **Ensure that hospitals identified as "acute stroke capable" possess the appropriate resources and deliver primary stroke care in accordance with national recommendations and local or national certifying bodies.**

Strategy 1: **Ensure that only hospitals in Wisconsin certified by JCAHO for acute stroke are identified as "acute stroke capable".**

#	Objectives	Action Steps	Timeframe
3.1A	**Provide oversight/approval/confirmation of hospitals on the criteria indicated as meeting (a check and balance on self-reporting) and promote accuracy in qualifying hospital services.**	• Investigate and evaluate the option of providing oversight services (and other organizations that could) and developing categories of capabilities or levels for hospitals (note: these are not certification levels!) (e.g. Level 1: JCAHO certified, Level 2: Meets all criteria but not seeking JCAHO certification, Level 3: Treats stroke, meets most criteria but not all, Level 4: Treats stroke and has sufficient deficiencies regarding certification criteria, Level 5: Will not treat strokes, will divert. • Investigate and evaluate the option of possibly providing other certification options (the need for other certification process or state level certification process different than JCAHO); include in the investigation looking at what other states are doing (for example, Mass.) • Investigate the potential of having a reporting capability associated with the CVH Stroke website for hospitals to submit reports and documents for oversight capability. • Determine what hospitals would report.	2005-2007
3.1B	**Investigate potential for stroke legislation to support JCAHO primary stroke center certification for hospitals treating acute stroke patients.**	• Evaluate stroke legislative efforts across the country. • Provide a recommendation for Wisconsin.	2005-2007

Goal 4: **Ensure that clinical pathways are used consistently to ensure the organized application of interventions to prevent or limit stroke progression or secondary complications.**

Strategy 1: **Ensure that clinical pathways are based on protocols adapted to each institution reflecting well-established standards of care and national guidelines.**

#	Objectives	Action Steps	Timeframe
4.1A	**Educate hospitals about key performance measures to strive for in stroke care.**	• Adopt JCAHO performance measures for stroke care. • Determine additional key performance measures for stroke care and investigate the possibilities of incorporating into discharge data. • Create templates for clinical pathways that reflect the most current clinical practice guidelines.	2005-2007

		• Provide model pathways and tools and other related resources on the CVH Stroke website to meet those performance measures. • Promote the availability of resources to hospitals. • Provide training sessions. • Monitor the website for the most current and up to date information.	
4.1B	**Provide assistance to hospitals treating acute stroke patients to establish a QA process to continuously monitor the use and appropriateness of their pathways.**	• Educate institutions not using the quality process outlined by Joint Commission on the JCAHO quality process (outlines exactly what you need to be looking at, in process of being approved, is being piloted right now, they're indicators). • Develop resources and post to the CVH Stroke website. • Offer QA trainings.	2005-2007

Goal 5: Identify the roles played by each type of hospital in the system and define the responsibilities inherent in those roles.

Note: The panel determined that Goal 5 and the following strategies are accommodated in the previous goals, strategies and objectives.

Strategy 1: Ensure that hospitals with limited resources develop plans to collaborate with nearby primary or more comprehensive stroke centers (or both) including formal transfer agreements.

Strategy 2: Ensure that primary and comprehensive stroke centers are collaborating with other facilities in ways that promote patient access to appropriate care.

Strategy 2: Ensure that each hospital is taking responsibility for meeting its obligations to the broader stroke system.

WISCONSIN STROKE PLAN 2005

Sub-Acute Stroke Care & Secondary Prevention

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A. Introduction

Sub-Acute Stroke Care & Secondary Prevention: Ideal State
1. Organized approaches are used (such as stroke teams, stroke units and protocols) to ensure all patients receive appropriate sub-acute care. (Required in PSC certification)
2. Approaches are adopted that ensure secondary prevention addressing all major modifiable risk factors for all patients with a history of stroke. (Required in PSC certification)
3. Stroke patients/families receive education on stroke risk factors, warning signs & how to activate EMS.
4. A smooth transition exists from inpatient to outpatient care.

The treatment of stroke patients during the sub-acute phase, including the early implementation of secondary prevention regimens, is critical to optimizing patient outcomes. There are well-established evidence-based guidelines focused on sub-acute care and secondary prevention for stroke, and patient outcomes can be improved through their consistent implementation. Systems approaches can provide important support mechanisms to help ensure that well-established evidence-based practice guidelines are put into practice in consistent ways, regardless of the setting of patient care.

One important aspect of patient care in the sub-acute phase involves the treatment of progressing stroke. Approximately one-third of stroke patients worsen during the initial 24 to 48 hours after stroke onset, and early deterioration is associated with increased mortality and morbidity.

Organized and standardized efforts targeting prevention of common complications are also critical, including prevention, recognition and treatment of acute stroke, myocardial infarction, deep vein thrombosis, pulmonary embolism, urinary tract infections, aspiration pneumonia, dehydration and poor nutrition, skin breakdown and metabolic disorders. To optimize the therapeutic benefit, many of the steps necessary to avoid these complications should be initiated in the emergency department.

Improved clinical outcomes are realized when sub-acute stroke care is provided through the use of focused and organized approaches during hospitalization, including the use of short- and long-term stroke units. These stroke units integrate acute and rehabilitative care by a well-trained, multidisciplinary group specializing in the care of stroke patients and commonly use clinical pathways and protocols, typically in a geographically defined area of the hospital. Stroke unit personnel include physicians, nurses and rehabilitation personnel who engage in regular communication and other efforts to ensure the coordination of care.

B. Current Status

Please rate Wisconsin's current status on *Sub-Acute Stroke Care and Secondary Prevention* (on a scale from 1 to 5, 1 being poor (does not exist) and 5 being "ideal" state exists):

Organized approaches to care exist
Secondary prevention strategies implemented
Post-stroke education on risk, warning signs
Smooth transitions exists between in/out-patient care

1. **__2.2___ Organized approaches** are used (such as stroke teams, stroke units and protocols) to ensure all patients receive appropriate sub-acute care. (Required in PSC certification)

2. **__2.0___** Approaches are adopted that **ensure secondary prevention** addressing all major modifiable risk factors for all patients with a history of stroke. (Required in PSC certification)

3. **_ 1.0___ Stroke patients/families receive education** on stroke risk factors, warning signs & how to activate EMS**.**

4. **__2.4 ___**A **smooth transition** exists from inpatient to outpatient care.

5. **__1.9___ Overall Score**

C. Inventory

Identify assets and resources available to assist with the above recommendations.

Inventory of Sub-Acute Stroke Care & Secondary Prevention Assets/Resources	
Organization (Source)	**Asset/Resource (Identify/Describe)**
AHA/ASA	Toll-free "Warmline" and website Get With The Guidelines/Stroke Patient Education Materials Heart/Stroke Recognition Program (NCQA) *Stroke Connection Magazine* (re-branding opportunities) Satellite Broadcast on Secondary Prevention + derivatives Starting Now (secondary prevention in the rehab setting)

D. Assessment for *Sub-Acute Stroke Care and Secondary Prevention*

Recommendation 1: A stroke system should use organized approaches (such as stroke teams, stroke units and written protocols) to ensure that all patients receive appropriate sub-acute care.

- Rated 2.2 out of 5.

- **Current situation:**
  - Met with JCAHO certification (covers acute care hospital and what is initiated there).
  - Covered as a PSC BAC Recommendations.

Recommendation 2: A stroke system should adopt approaches to secondary prevention that address all major modifiable risk factors and that are consistent with the national guidelines for all patients with a history or suspected history of stroke or transient ischemic events.

- Rated 2.0 out of 5.

- **Current situation:**
  - Covered as a PSC BAC Recommendations

Recommendation 3: A stroke system should ensure that stroke patients and their families receive education on stroke risk factors, warning signs and the availability of time-sensitive therapy, as well as the appropriate method for activating EMS in their area.

- Rated 1.0 out of 5.

- **Current situation:**
  - Covered as a PSC BAC Recommendations

Recommendation 4: A stroke system should ensure a smooth transition from inpatient to outpatient care, including timely transfer of hospitalization information to the subsequent treating physician and a clear method of appropriate follow-up.

- Rated 2.4 out of 5.

- **Current situation:**
  - No recommendations cross into the outpatient setting.

"Where ever a patient is treated for stroke, these issues should be effectively addressed regardless of the stroke center status, if you will. The stroke center status will really separate out those that can deliver acute stroke emergency stuff from those who can't, but this sub-acute care really can be done in any hospital. "

E. Action Plan

Wisconsin Stroke Plan
Sub-Acute and Secondary Prevention
2005-2009

THE PANEL MAKES A NOTATION TO THIS PLAN: ANY HOSPITAL TREATING A STROKE PATIENT SHOULD MEET THESE BASIC SUB-ACUTE AND SECONDARY PREVENTION STROKE CARE GOALS; THIS INCLUDES ANY HOSPITAL THAT RECEIVES A STROKE PATIENT AND DOES NOT DIVERT HAS TO BE ABLE TO ACCOMPLISH THESE GOALS.

Goal 1: **A stroke system should use organized approaches (such as stroke teams, stroke units and written protocols) to ensure that all patients receive appropriate sub-acute care.**

Note: For hospitals that are JCAHO certified this goal is supported.

Strategy 1: **Support targeting efforts to recognize and treat deterioration after stroke and the prevention of common complications occurring in the early post-stroke period.**
Strategy 2: **Support pursuing continuity of care with therapies initiated during the hyper-acute phase.**

#	Objectives	Action Steps	Timeframe
1.1&2A	**Assess the capability of hospitals on the use of stroke care plans.**	• Include in the hospital capabilities survey whether the hospital has stroke care plans.	2005-2007
1.1&2B	**Inform and educate hospitals that adopting an organized approach to stroke by implementing pathways and having QA can improve quality of care for stroke patients.**	• Provide education and training on the existence of pathways and how to implement.	2005-2007
1.1&2C	**Encourage non-certified hospitals to adopt clinical pathways or tools similar to a pathway to improve standards of care and use them.**	• Create a template for pathways that may be utilized by hospitals caring for stroke patients. • Ensure that the templates meet the above specific goals. • Post resources and pathways on the CVH Stroke website.	2005-2007

Goal 2: **A stroke system should adopt approaches to secondary prevention that address all major modifiable risk factors and that are consistent with the national guidelines for all patients with a history or suspected history of stroke or transient ischemic events.**

Note: For hospitals that are JCAHO certified this goal is supported.

Strategy 1: **Ensure that stroke secondary prevention strategies also address the relevant modifiable risk factors for heart disease and other cardiovascular diseases.**

#	Objectives	Action Steps	Timeframe
2.1A	**Assess the capability of hospitals on initiating secondary stroke prevention measures.**	• Include this component in the hospital capabilities survey. • Explore current reimbursement patterns for prevention measures among hospitals.	2005-2007

2.1B	**Inform and educate hospitals that adopting an organized approach to secondary prevention by implementing pathways and having QA can improve quality of care for stroke patients.**	• Provide education and training on the existence of pathways and how to implement.	2005-2007
2.1C	**Encourage non-certified hospitals to adopt clinical pathways or tools similar to a pathway to improve standards of care and use them.**	• Create a template for pathways that may be utilized by hospitals caring for stroke patients. • Ensure that the templates meet the above specific goals. • Post resources and pathways on the CVH Stroke website.	2005-2007

Goal 3: **A stroke system should ensure that stroke patients and their families receive education on stroke risk factors, warning signs and the availability of time-sensitive therapy, as well as the appropriate method for activating EMS in their area.**

Note: For hospitals that are JCAHO certified this goal is supported.

Strategy 1: **Ensure that measurable goals are established for assessing the ability of stroke patients and their families demonstrate new knowledge as a result of this intervention.**

#	Objectives	Action Steps	Timeframe
3.1A	**Assess the capability of hospitals to provide education.**	• Include this component in the hospital capabilities survey.	2005-2007
3.1B	**Inform and educate hospitals that adopting an organized approach to providing patient and stroke family education by implementing pathways and having QA can improve quality of care for stroke patients.**	• Provide education and training on the existence of pathways and how to implement.	2005-2007
3.1C	**Encourage non-certified hospitals to adopt clinical pathways or tools similar to a pathway to improve standards of care and use them.**	• Create a template for pathways that may be utilized by hospitals caring for stroke patients. • Ensure that the templates meet the above specific goals. • Post resources and pathways on the CVH Stroke website.	2005-2007

Goal 4: **A stroke system should ensure a smooth transition from inpatient to outpatient care, including timely transfer of hospitalization information to the subsequent treating physician and a clear method of appropriate follow-up.**

Strategy 1: **Encourage support through hospital policies and procedures.**

#	Objectives	Action Steps	Timeframe
4.1A	**Encourage every hospital to have a policy and procedure in place to document and to forward to the primary care physician that risk factors have been identified and treatment recommendations made.**	• Identify a pathway to ensure risk factors are identified and modifications recommended (pathway or standing orders and a report form or discharge summary). • Written communication should also be included for the primary care physician and for the patient with risk factors outlined for follow up.	2005-2007

WISCONSIN STROKE PLAN 2005
Rehabilitation of Stroke Patients

A. Introduction

Rehabilitation of Stroke Patients: Ideal State
1. All stroke patients with residual deficits receive an evaluation for rehab therapy during initial hospitalization.
2. Levels of rehabilitation services and resources are periodically evaluated.
3. Stroke survivors are referred to an inpatient, outpatient or home-care service that provides the survivor's medical and functional needs.
4. Support systems are identified to ensure that patients discharged to home from hospitals and other care facilities have appropriate follow up and primary care arranged on discharge.

A systems approach is particularly important to promote the effectiveness of rehabilitation for stroke, especially given the importance of effective communication among providers, facilities, patients and family members. Coordination and collaboration among all providers throughout the continuum of care are important to optimize patient outcomes, and rehabilitation should begin as soon as medically feasible.

The intensity of rehabilitation services often is a critical determinant in the recovery of stroke patients. The use of coordinated, multidisciplinary stroke rehabilitation teams has been shown to diminish mortality rates for patients with stroke. In addition, stroke patients who receive care in an inpatient rehabilitation facility are more likely to return to the community and to recover activities of daily living.

The linkages and coordination of care should be maintained to ensure adequate communication among the full set of professionals delivering rehabilitation services. In addition, communication should be pursued among those providing outpatient care in various settings, including secondary prevention.

B. Current Status

Please rate Wisconsin's current status on *Rehabilitation of Stroke Patients* (on a scale from 1 to 5, 1 being poor (does not exist) and 5 being "ideal" state exists):

Patients evaluated for rehab
Levels of rehab services are periodically evaluated
Appropriate referrals to rehab exist
Support systems are offered

1. **__2.9___** All **stroke patients with residual deficits receive an evaluation** for rehab therapy during initial hospitalization.
2. **__1.0___** Levels of rehabilitation **services and resources** are periodically **evaluated**.
3. **__2.5___ Stroke survivors are referred** to an inpatient, outpatient or home-care service that provides the survivor's medical and functional needs.
4. **__2.8___** Support systems are identified to ensure that **patients discharged** to home from hospitals and other care facilities have **appropriate follow up and primary care arranged on discharge**.
5. **__2.3___ Overall Score**

C. Inventory

Identify assets and resources available to assist with the above recommendations.

Organization (Source)	Asset/Resource (Identify/Describe)	Assists with which Recommendation
AHA/ASA	Toll-free "Warmline" and website Database of stroke support groups Starting Now (secondary prevention in the rehab setting) *Stroke Connection Magazine* Stroke Group Registry Peer Visitor Program	#4
Submitted by Donna Pieschek, St. Vincent's Hospital, Rehab, Green Bay:		
CARF	Provides on-site review of Rehab program	#2
JCAHO	Provides Stroke program certification	#2
St. Vincent's Hospital	Functional admission screen done on all patients to assess need for PT, OT, Speech	#1
St. Vincent's Hospital Case Manager	Same case manager follows all stroke admissions and assists with movement through medical system and follow-up	#3 & 4
St. Vincent's Hospital	Have local support group; sign up patients for Stroke Connection magazine; give education binder to patients	#4
Submitted by: Angela Oldenburg, Bloomer Medical Center, Bloomer:		
Luther Hospital – EC Inpatient Neurosciences And Neuro Intensive Care	Nursing and physician (Neurologist or Neurosurgeon) complete neuro exam and refer for appropriate therapies. Pt. is discussed daily during Core Care Rounds where therapies, nursing, social services, pharmacy, respiratory therapy, chaplain, dietician, physiatrist are all present. Needs for therapies and discharge planning are completed during this daily meeting.	#1, #3, #4
Bloomer Medical Center – Transitional Care Unit	Core care rounds 2x/week with entire team noted above. MWF mini meetings for team to communicate plan of care and discharge planning.	#3
Center for Independent Living of WI	Community resource available for individuals wishing to return to work or assistance w/ home adaptation recommendations. Comprehensive communication is not always present d/t confidentiality issues.	#4
Submitted by: Dori Tooke, St. Luke's Medical Center, Rehabilitation, Milwaukee:		
St. Luke's Medical Center	• **Measurement tools including FIMs, the mini mental exam, NIH stroke scale, clinical pathways,**	

Rehabilitation	**interdisciplinary care plans, and general mobility/ADL/comp-cog-swallow evals for therapy** • **We use CARF and JCAHO quality criteria** • **We have county and community van services for transportation options** • **We have a stroke support group and a stroke at midlife support group** • **There is a rehab day program within our system at a sister hospital a few miles away** • **We have the full continuum of rehab care (ER-ICU-Acute-IRP-OP therapy and home care)** • **There are various respite and community based services, meals on wheels, etc.** • **There are multiple written pamphlets and booklets for information, community health fairs, etc** Being in a large urban area, we generally have the resources, but we often lack the family support to take advantage of all of the resources.	
Submitted by: Janet Papenfuss, Franciscan Skemp Healthcare, Rehab Services, La Crosse		
∅	∅ standardized screening tool	#1
Franciscan Skemp Healthcare P&Ps	Staffing plans/Bed availability counts	#2
Franciscan Skemp Healthcare Employee(s)	Discharge Planners, Social Workers, Rehab	#3
Franciscan Skemp Healthcare Unit Specific Meetings	Unit Patient Care Meetings and Staffings; SNF Patient Care Conferences (staffings)	#3
• Franciscan Skemp Healthcare Staff Employees • Unit Specific Meetings	Case Managers; Discharge Planners/Social Workers	#4
Submitted by: Kathy Mosack, Sacred Heart Hospital, Eau Claire		
Daily Neuro Unit Meeting SHH	Interdisciplinary team at Sacred Heart Hospital meet daily to review cases and determine treatment and discharge needs. This meeting is attended by the Rehab Coordination, OT, PT, Speech, Nursing, Discharge planner, Dietician, Pharmacist and Social Worker. Need for therapy and appropriate level of Rehab is discussed at this meeting.	#1 & 3
Rehab Screening Format - SHH	The Rehab Coordinator follows and completes information on a screening form that when reviewing medical records and evaluating patients referred for Inpatient rehabilitation. This information is given to the Physiatrist prior to his visit with the patient and determination of the appropriate setting for the patient.	# 1 and 3

Rehabilitation patient/team meetings	Weekly interdisciplinary conferences with therapies, nursing, soc service and physiatrist held for each patient on the rehab unit to discuss patient progress and discharge plans. The team meets daily without the MD for 15 to 20 minutes to coordinate patients on that team – maximum of 8 patients. The patient, family, and team of staff meet the day after admission to develop the patient's treatment plan together. Family conferences with the team of staff, MD, patient and family as needed and always prior to discharge to make sure all needs have been addressed.	#3 & 4
Stroke Support Group	A Support group – monthly meetings facilitated by hospital staff held at SHH.	#4
Discharge and follow-up calls. SHH	All patients discharged from the Rehab unit receive a phone call one or two days following discharge form their primary Rehabilitation RN to if they have any immediate unmet needs. Follow phone calls 2 to 3 months following discharge are made to gather FIM data and follow up appointments are made with primary physicians at discharge for follow up of the patient.	#4
CARF	Certifies Rehab Facilities holding them to a high standard of care	#2
JCAHO	Surveys Institutions and awards Stroke Certification as appropriate to centers that meet their criteria.	#2

D. Assessment for *Rehabilitation of Stroke Patients*

Recommendation 1: "A stroke system should ensure that all stroke patients receive a standardized screening evaluation during the initial hospitalization to identify the patients with residual impairment so the patients receive appropriate rehab."

- Rated at 2.9 out of 5; no standardized evaluation tool exists that is consistently used for screening and evaluations; recommend standardized tool. The standardized screening would have triggers to get the appropriate disciplines or services involved.
    - Hospitals provided some type of screening and evaluation but not standardized

- **Obstacles/Barriers:**
    - It would take some work to come up with a standardized tool
    - Having it cover everything needed (because there are subjective things to look at)
    - Short enough in length to not be too long, yet cover everything

- **Critical success factors:**
    - A taskforce of rehab professionals to develop it throughout the state
    - Engage the rehab community in the process for their buy-in and acceptance
    - Teaching/training small hospitals without rehab units to use the tool – should be something a nurse could do; a standardized screening, one that the nurse can do and triggers appropriate services be involved as opposed to a comprehensive dull therapy and nursing evaluation
        - This would provide the baseline upon entering the acute system as to a basic functional and mental baseline
    - Evaluations done in the ED since patients can be seen and sent home from the ED without necessary follow up
    - Assign responsibility for conducting the assessment (filling it out) should be held by nursing (regardless of how the patient is admitted ie direct to a bed or through the ED)
    - Use of evaluation screening tool at intake and transfer – the screening process is ongoing -- for example in the ED, on the floor, the transfers to floors, the transfer to rehab – once the patient is in the rehab unit the screening process is done
    - Make physicians aware of the screening tool and everyone else involved in the patient's care
    - Usually it's OT that gets forgotten and they did get activities of daily living mentioned, but not "Assessment of functional status" is pretty broad and we might miss a trigger if we're not talking about mobility/balance
    - Include "ability to take food by mouth or PO intake that would trigger a speech pathology consult."
    - Collaborate with the Acute Stroke panel to coordinate on any inpatient assessment tool they may recommend for hospitals when the patient is first admitted such as NIH stroke scale and how that may tie into our standardized screening tool.

Idea for Action: Working up a standardized screening and evaluation form is something that the committee, that the panel rather would recommend and maybe build an objective around.

Recommendation 2: "A stroke system should periodically assess its level of available rehab services and resources. Such an assessment should include the total number and types of beds available, the intensity of services provided, the presence of trans-disciplinary coordinated teams, the adequacy of care coordination. The assessment should consider the current and future needs of the system for inpatient care, etc."

- Rated at 1 out of 5; number one pretty much said it didn't exist in the state.
    - Improvement would be doing it at all; we said it was not being done.

- **Obstacles/Barriers:**
    - The repository of data on # beds, types of beds, intensity of services provided resides in different places per Mary Jo.

- In very rural areas of the state (far north) there are nursing homes with certified Medicare beds and they do have therapies, but they are very limited – there is no trans-disciplinary therapy team. Level of rehab available vs a metro area is very different. Need to know more than just certified beds; we need to know capabilities.
- "The thing I feel like is missing is the recommendation that we collect all of the stuff but not that we develop a guideline or a benchmark to say what's adequate. That's both under the goal and strategy, but also under the recommendation. It just says, "Collect it," but what are going to do with that, which I don't have a good answer to but it seems like the point of collecting it would be to determine if we have adequate resources or where we need to get resources, but we don't really address what it is that we determine to be adequate."
- "I think it should include outpatient and homecare because the lack of some of those kinds of facilities change, in different communities really affect how you treat patients."
- "I think the part that's missing is we don't have any information on how many stroke patients would need the various levels. We can count how many of the various levels we have, but maybe putting these two together, we could come up with that and it would be changing as the population changed."
- "We're looking at what we have, but we're not looking at what we need. We need to somehow look at what we need."
- Data is not currently available.

- **Critical success factors:**
  - Determine if there is a gap between what is available for rehab services and resources and # patients who are not receiving resources.
  - Panel does not know how to begin to get the information; if anyone handles this data.
    - Mary Jo comments "not yet"; that is stroke incidence and what a registry will provide – who had a stroke or TIA, who had what kind of rehab and determine if the patient received what was needed.
  - Development is longer term, not a short-term turnaround. Might be able to know how many people served. Data collected is for patients currently there, not over 12-month period.
  - Define what data is collected by the state and what needs to be collected.
  - Define geographically , by region to know what areas of the state have, and the barriers and obstacles in those regions.
  - It is commented that data may be kept by county – could the assessment be conducted by county to have data and availability of service/resource by county to know the availability of services and resources.
  - Post information from data collection on the CVH Stroke website—to list what's available and have information posted in one place accessible to all.
    - It is commented that keeping information up to date is important and have the posted information regularly reviewed (quarterly, semi etc)
    - Currently Mike Yuan would be the webmaster for the CVH Stroke site working with Mary Jo Brink.

Recommendation 3: "Stroke patients should be referred to an inpatient facility or an outpatient facility or a home care service that provides for their medical functional needs. The stroke system should develop performance measures that reflect the frequency at which patients receive the level of service that is appropriate for their condition. Research is needed to determine the impact of local practice variation and reimbursement policies on stroke outcomes and patients will receive other than the optimal level of rehab service."

- Rated at 2.5 out of 5. This is an important measure because of reimbursement for strokes

- **Current Situation:**
  - CARF accredited facilities have to collect outcome data, but a majority of facilities are not CARF accredited. Those that are have a standardized screening with triggers to get the appropriate disciplines or services involved and data is collected for gaps.
    - Do we know which facilities are CARF accredited? (web site does not list; need to submit request)
  - JACHO accredited facilities collect some type of outcomes information (who is getting what kinds of services) but we don't know how to determine whether or not there is a gap (refers back to #2).
    - Can get discharge disposition based on acute DRG; don't know what is available from ED (if it can be tracked)
  - Individual rehab units track data; it would be desirable to know what services patients got when they left the hospital

- **Critical success factors:**
  - Discerning what CARF and JCAHO collect for data – what data currently exists, is it publicly available?
  - Agreement on appropriate referral places for stroke survivors

- Determine through data collection if we are meeting what was defined as appropriate services (no standard exists that places strokes into categories for levels of services to administer)
  - We are not all on the same page in defining levels of stroke and what kind of care they require
  - Resources or guidelines on this are available
- Key is research – "we really need data in some controlled research to figure this out; everybody has an opinion"
- "I think the stroke system needs to develop them (performance measures) and the health facilities need to follow them and record if they follow them or something. I don't think that each facility, or group of facilities can develop performance measures. Then would they roll up to like a state report? I would think so and if we did that, we'd get a lot of what we needed in number two."
- Include in a survey if facilities are CARF (and at what level or for what services) or JCAHO certified.
- Defining appropriate referral for stroke survivors would be a long-term goal.

Recommendation 4: "Stroke system should establish support system to ensure that patients discharged from hospitals and other facilities to their homes have appropriate follow-up and primary care arranged on discharge. These efforts should include education and training for the patient and the family members, clear comprehensive timely communication across the inpatient and outpatient post-stroke continuum of care is essential to ensure appropriate medical and rehabilitation care."

- Rated at 2.8 out of 5. One of two rated the highest (the other at 2.9). Overall comment: "We felt we did this well for the rehab units but not necessarily always well from an acute care unit especially in a small hospital."

- **Obstacles/Barriers:**
  - Reimbursement
  - Not many health systems with acute care, rehab, home care – the full continuum
  - Another issue is distance – patients get sent 80-90 miles away (to their homes) for home care
  - Just plain availability of resources depending on the part of the state you are in – geographic barriers
  - "Compliance. We recommend but we don't have really necessarily any control over follow through the continuum of care, especially once they leave a facility to go to outpatient or home care - that kind of thing, which could certainly be addressed through education, but it is an obstacle."

- **Critical success factors:**
  - It would need to be a requirement in order to make it happen, like a basic JCAHO requirement.
  - Idea: A case manager to cover the entire continuum of care
    - Payers may have this available (Community Health Partnership, Eau Claire – act as an insurer, need to be Medicaid eligible)
    - New concept in La Crosse: "Patient care guide" but only developed for cancer at this time
  - Establish some basic guidelines and get those out there on the Web
  - From inpatient rehab unit:
    - Care management initiatives (best practice) provide what things to think of for the patient and through discharge (a checklist)
    - Team conferences all the disciplines and physicians present
  - JCAHO recommendation: stroke follow up clinic

E. Action Plan

Wisconsin Stroke Plan
Rehabilitation of Stroke Patients
2005-2007

Goal 1:	**A stroke system should ensure that all stroke patients receive a standardized screening evaluation during the initial hospitalization to identify patients with residual impairments to ensure these patients receive appropriate rehabilitation.**

Strategy 1: *Promote and encourage use of a standardized screening evaluation tool by nursing in the ED and/or during the initial hospitalization to provide important insights into the type and duration of rehabilitation therapy that is needed on a patient-by-patient basis.*

#	Objectives	Action Steps	Timeframe
1.1A	**Coordinate with the Acute Stroke Panel on assessments they are including (NIH scale etc) and collaborate with them for continuity.**	• Collaborate and integrate with Acute Stroke Panel on assessments they are including in their plan.	2005-2007
1.1B	**Develop a standardized screening evaluation tool for use by Wisconsin providers in the ED and/or at initial hospitalization.**	• Recruit a task force of rehab specialists to develop a survey and from data develop a standardized screening and evaluation tool for the initial acute phase, determine what components are included and provide recommendations for implementation and use. • Investigate what other states are using for screening tools and process. • Survey acute hospitals, ED departments on what they're doing now for screening (what process is used) and what standardized screening evaluation tool is used (request sample). • Develop a plan to engage the rehab community in the process for their buy-in and acceptance. • Coordinate and take into consideration other assessments recommended and used such as "JCAHO is stressing that the NIH Stroke Scale be done in the ED. That's what we're trying to do at our site is make sure that every nurse in the ED knows how to do the NIH scale. We have other triggers as well in the collaborative database that they fill out when they assess any patient. There are triggers for other services, but that's another tool that they would use would be the NIH scale if they had stroke-like symptoms.	2005-2007
1.1C	**Encourage consistent use of a standardized screening evaluation tool.**	• Develop and promote a training program for hospitals and in particular small hospitals on implementation and consistent use of the standardized screening evaluation tool. • Recruit a task force of rehab specialists to develop a training program. • Develop a plan to promote the standardized screening evaluation tool and training (consider offering "webinars" to hospitals). • Ensure the standardized screening and evaluation tool is readily available (posting on the CVH Stroke website).	2005-2007

Strategy 2: *Standardized screening evaluations for stroke rehabilitation should include a neurological assessment of residual deficits, assessment of functional status (activities of daily living), cognitive and psychological status, determination of prior function status and medical co-morbidities, the level of family/caregiver support, the likelihood of return to the community and the ability to participate in rehabilitation services.*

#	Objectives	Action Steps	Timeframe
	See 1.1B above.	• Include this information as part of the survey developed above.	2005-2007

Goal 2: **A stroke system should periodically assess its level of available rehabilitation services and resources.**

Strategy 1: **Ensure periodic assessment of available rehabilitation services and resources to include:**

- **total number and types of beds available,**
- **intensity of services provided in different settings,**
- **presence of trans-disciplinary coordinated teams and**
- **adequacy of program of care coordination.**

This assessment should also consider:

- **current and future needs within the system for inpatient care,**
- **relative mix among inpatient rehabilitation facilities, skilled nursing facilities, nursing homes, home care services and outpatient services.**

#	Objectives	Action Steps	Timeframe
2.1A	**Define what data is currently collected, what needs to be collected and survey to collect data not currently available.**	Steps to determine where we are: • Work with the CVH Epidemiologist to report to the task force the on data currently collected by the state. • Generate suggestions for collecting data not currently collected. • Recruit a task force to determine what data should be collected by the state, define settings (inpt and outpatient rehab, rehab facilities, nursing facilities, home health, extended care facilities, CBRF) and types and intensity of rehab services offered. • Develop and field a survey with web-based response (survey to include opinions on the adequacy of resources ie questions about where people are sent for stroke rehab and is this the optimal place, or is it a site because there is no other option, are resources adequate).	2005-2008
2.1B	**Make information available on resource coverage to meet stroke rehab patient needs in regions of the state.**	Steps to assess where we need to be and what we are going to do about it: • Analyze data from the survey above and other collected data. • Determine the state of stroke rehab resources in various regions of the state and how to improve them where needed. • Assess conducting a periodic survey (every two years??) to ensure knowing how many stroke patients there are, and assess if the state has adequate resource coverage for stroke patients in regions of the state? • Explore/Determine what is adequate coverage and what we would do about it if we found resources were not adequate. • Publish information on the CVH Stroke website.	2008-2009

Goal 3: **Stroke patients should be referred to an inpatient facility, an outpatient facility, or a home care service that provides for their medical and functional needs.**

Strategy 1: **Develop performance measures that reflect the frequency at which patients receive the level of service appropriate to their condition.**

#	Objectives	Action Steps	Timeframe
3.1A	**Investigate published guidelines and recommendations for placement for rehab care**	• Recruit a task force to investigate and make recommendations for an acute stroke algorithm and best practices for placement for rehab care after stroke for Wisconsin stroke care.	2005-2007

	after stroke (right level of care at right time for best outcome) and best practices occurring in other states or within Wisconsin.		
3.1B	**Promote acute stroke algorithm for placement for rehab care after stroke for Wisconsin stroke patients.**	• Determine a plan to promote algorithm and best practice recommendations.	2008-2009

Strategy 2: Encourage research to determine the impact of local practice variation and reimbursement policies on stroke outcomes in patients who receive other than the optimal level of rehabilitation services.

#	Objectives	Action Steps	Timeframe
3.2A	**Explore reimbursement issues in common across the state.**	• Survey hospitals and other stroke rehab sites regarding stroke reimbursement issues. • Determine what improvements are needed and develop a plan to move improvements forward.	2007+

Goal 4: A stroke system should establish support systems to ensure that patients discharged from hospitals and other facilities to their homes have appropriate follow-up and primary care arranged upon discharge.

Strategy 1: Promote education and training to the patient and family members to ensure their awareness and knowledge of appropriate follow-up and primary care after discharge.

#	Objectives	Action Steps	Timeframe
4.1A	**Raise awareness among patients and family members and health care providers on the importance of follow-up and primary care after discharge.**	• Reinforce stroke signs and symptoms and call 911 with stroke patients, families, caregivers • Identify supporting stroke resources such as o Messages at discharge, educational materials for patients and family, caregiver info and support groups (and info available in in different communication modes…print, audio visual etc) o Support systems resources (case management, follow-up clinic, patient follow-up practices, education and training available) o Placing info on the CVH Stroke website dedicated to stroke rehab for patients and providers etc	2005-2007

Strategy 2: Promote clear, comprehensive and timely communication across the inpatient and outpatient post-stroke continuum of care to assure appropriate medical and rehabilitation care.

#	Objectives	Action Steps	Timeframe
4.2A	**Encourage hospitals (and other facilities) to adopt ED and acute care discharge systems that will automatically communicate with primary care physicians and copy patients on follow-up care (exit care sheet).**	• Identify best practices and materials that will support this objective for stroke patients, families and caregivers. • Promote the need for exit care information to be provided to primary care physicians and other follow-up providers. • Educate stroke patients and family members and caregivers on the importance of follow through on recommendations for appropriate medical and rehab care.	2005-2007